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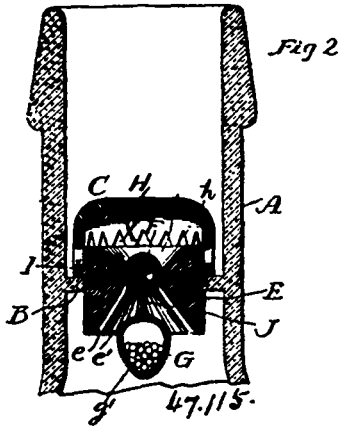
No. 47,115. Bottle Stopper.

(*Bouchon de bouteilles.*)

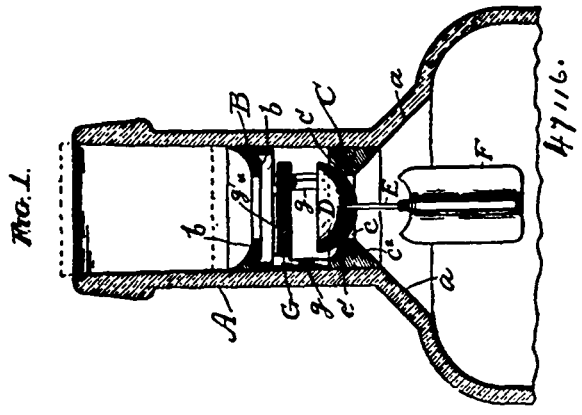


Charles Nathan Brisco and John Franklin Muchmore, assignees of John Roggінger, all of Chicago, Illinois, U.S.A., 1st October, 1894; 6 years.

Claim.—1st. The combination, with a bottle having in its neck a contracted passage, a valve-seat surrounding said passage, and a portion flaring inward from said seat, of a valve and weight located upon opposite sides of said seat, and a connection between the valve and weight of such length that when the bottle is tipped the weight will come in contact with said flaring portion, substantially as set forth. 2nd. The combination with a bottle having in its neck a contracted passage, a valve seat surrounding said passage, and a portion flaring inward from said valve-seat, of a valve and weight located upon opposite sides of the valve-seat, a connection between the valve and weight of such length that when the bottle is tipped the weight will come in contact with said inward flaring portion, and a channel for the passage of the fluid when the weight is in contact with said inward flaring portion, substantially as set forth. 3rd. The combination with a bottle, of the ring E, having a contracted passage, a valve-seat surrounding said passage, a weight located upon opposite sides of said valve-seat, a connection between said valve and weight, and a cap H, embracing the ring and fitting it tightly, said cap having notches extending from its margin to a point beyond the margin of the ring, leaving openings *h*, for the passage of air and liquid, substantially as set forth.

No. 47,116. Bottle Stopper.

(*Bouchon de bouteilles.*)



Charles Nathan Brisco and John Franklin Muchmore, both of Chicago, Illinois, U.S.A., 1st October, 1894; 6 years.

Claim.—1st. The combination, with a bottle having in its neck a contracted passage, and having a portion flaring inward from said contracted passage and formed directly on the interior of the bottle, of a valve and weight located upon opposite sides of said contracted passage, and a connection between the valve and weight of such length that when the bottle is tipped the weight will come in contact with said flaring portion of the bottle, substantially as set forth. 2nd. The combination, with a bottle having in its neck a contracted passage, a valve-seat surrounding said passage, and a portion flaring inward from said seat, of a valve and weight located upon opposite sides of said seat, and a connection between the valve and weight of such length that when the bottle is tipped the weight will come in contact with said flaring portion, said weight being formed with straight sides, substantially as set forth. 3rd. The combination, with a bottle having an automatically operating valve located in its neck, of a ring secured in the neck above the valve, and a disc located between the ring and valve, said disc having upon its top side ribs or corrugations, substantially as set forth. 4th. The combination, with a bottle having in its neck an automatically operating valve, of a ring secured in the neck above the valve, and a disc located between the ring and valve, the under side of the ring being provided with corrugations, substantially as set forth. 5th. The combination, with a bottle having an automatically operating valve in its neck, of a ring secured in the neck above the valve, and a disc located between the ring and valve, said disc having upon its top side corrugations, and said ring having upon its under side corrugations, substantially as set forth.

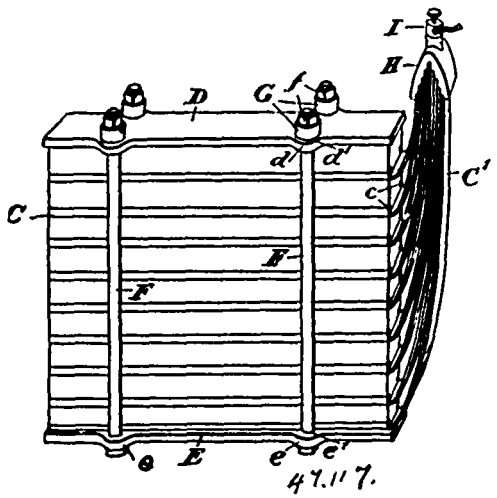
No. 47,117. Storage Battery.

(*Accumulateur électrique.*)

Charles Riordan, assignee of William Joseph Still, both of Toronto Ontario, Canada, 1st October, 1894; 6 years.

Claim.—1st. In a storage battery, an electrode comprised of a plurality of plates narrow in width and horizontally arranged and

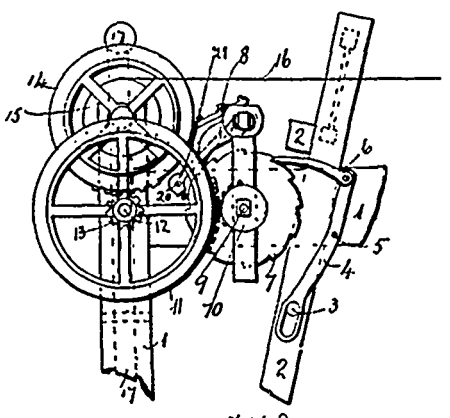
having the oxide arranged in alternate layers between the plates, as and for the purpose specified. 2nd. In a storage battery, an electrode comprised of a plurality of plates narrow in width and horizontally arranged, and having the oxide arranged in alternate layers



47,117.

between the plates and flexible means, whereby the plates are bound together, so as to permit of expansion and contraction of the oxide, as and for the purpose specified. 3rd. In a storage battery, an electrode comprised of a plurality of plates narrow in width and horizontally arranged, and having the oxide arranged in alternate layers between the plates and the retaining insolating top, and bottom plates, and clamping means for holding the electrode together, as and for the purpose specified. 4th. In a storage battery, an electrode comprised of a plurality of plates narrow in width and horizontally arranged, and having the oxide arranged in alternate layers between the plates and the retaining insulating top and bottom plates having lateral projections and hard rubber bolts extending through the projections, so as to bind the electrode together, as and for the purpose specified. 5th. In a storage battery, an electrode comprised of a plurality of plates narrow in width and horizontally arranged and having the oxide arranged in alternate layers between the plates, and the retaining insulating top and bottom plates having lateral projections and hard rubber bolts extending through the projections, the upper ends of the bolts being provided with springs interposed between the nuts and the plates, as and for the purpose specified. 6th. In a storage battery, an electrode comprised of a plurality of plates narrow in width and horizontally arranged, and having the ends of each plate of unequal length extending out beyond the oxide curved upwardly and secured together by means of a saddle, as and for the purpose specified. 7th. In a storage battery, an electrode comprised of a plurality of plates narrow in width and horizontally arranged, and having the oxide arranged in alternate layers between the plates and lips formed on sides and ends of the plates, as and for the purpose specified.

No. 47,118. Weaving Loom. *Métier à tisser.*)



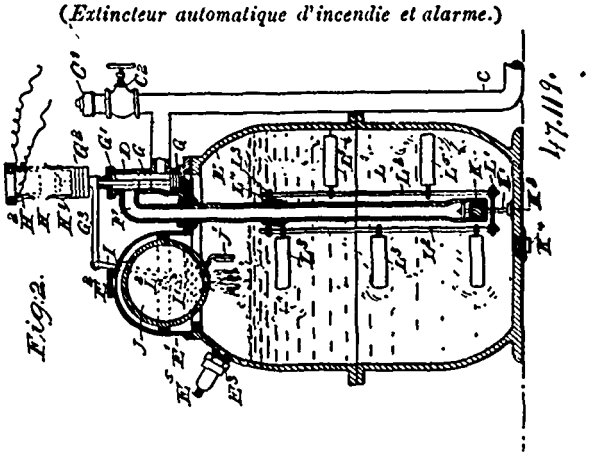
47118

Théodule Surprenant, Arthur Vincent et L. Achille Dufresne, Montréal, Québec, Canada, 1er octobre, 1894; 6 ans.

1o.—Le cliquet S, composé des parties B, C, H, E, tel que décrit. 2o.—La combinaison des pièces suivantes, adaptées au mécanisme déjà en usage dans les métiers à tisser, le doigt recourbé 18, le levier 21, la tête ajustable 8^1, et le cliquet 8, tels que ci-dessus décrits et pour les fins indiquées.

No. 47,119. Automatic Fire Extinguisher and Alarm.

(*Extincteur automatique d'incendie et alarme.*)



Edward Livingston and Harry Morris Isaacson, New Orleans, Louisiana, U.S.A., 1st October, 1894; 6 years.

Claim.—1st. The combination in an automatic fire extinguishing apparatus, of pipes adapted to be filled with an extinguishing liquid, a supply tank having its outlet connected with said pipes, a device for delivering thereto a gas generating substance, and a cut-off between the tank outlet and the distributing pipes, the said cut-off having connection with the device for supplying the gas generating substance, and serving to operate the same and connect the supply tank and pipes, upon reduction of pressure in the pipes, substantially as described. 2nd. An automatic fire extinguisher and alarm, comprising a series of pipes filled with a fluid under pressure, and provided with fusion valves, a cylinder connected with the said pipes and containing a piston held in an uppermost position by the fluid in the pipes, and a tank containing a fluid and provided with an outlet pipe opening into the said cylinder above the piston, substantially as shown and described. 3rd. An automatic fire extinguisher and alarm, comprising a series of pipes filled with a fluid under pressure, and provided with fusion valves, a cylinder connected with the said pipes and containing a piston held in an uppermost position by the fluid in the pipes, a tank containing a fluid and provided with an outlet pipe opening into the said cylinder above the piston, and a vessel containing a gas generating fluid and adapted to be discharged into the said tank on the downward movement of the said piston, which takes place when the fluid in the said pipes is discharged, substantially as shown and described. 4th. An automatic fire extinguisher and alarm, comprising a series of pipes filled with a fluid under a pressure, and provided with fushion valves, a cylinder connected with the said pipes and containing a piston held in an uppermost position by the fluid in the pipes, a tank containing a fluid and provided with an outlet pipe opening into the said cylinder above the piston, a vessel containing a gas generating fluid and adapted to be discharged into the said tank on the downward movement of the said piston, which takes place when the fluid in the said pipes is discharged, and an agitator arranged in the said tank and adapted to actuate the liquid therein as soon as the latter flows through the outlet pipe, substantially as shown and described. 5th. An automatic fire extinguisher and alarm, comprising a series of pipes filled with a fluid under pressure, and provided with fusion valves, a cylinder connected with the said pipes and containing a piston held in an uppermost position by the fluid in the pipes, a tank containing a fluid and provided with an outlet pipe opening into the said cylinder above the piston, a water-wheel arranged in the lower end of the said tank outlet pipe and adapted to be actuated by the outflowing liquid, and an agitator held on the shaft of the said water-wheel and serving to agitate the liquid in the tank, substantially as shown and described. 6th. An automatic fire extinguisher and alarm, provided with a series of pipes filled with a fluid and provided with fusion valves, adapted to open to form an outlet for the fluid as soon as the fusion connection for the valve is melted, and a supply connected with the said pipes and adapted to be actuated by the fluid contained in the pipes to generate carbonic acid gas, and to force the additional fluid supply into the pipes, and an alarm adapted to be actuated on the outflow of the liquid from the said pipes through one of the open fusion valves, substantially as described.

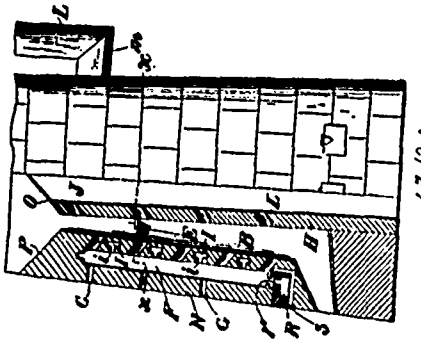
No. 47,120. Ore Roasting Kiln.

(*Four à griller le minerai.*)

The Davis Colby Ore Roaster Company, assignee of Owen Warren Davis, all of Middlesborough, Kentucky, U.S.A., 1st October, 1894; 6 years.

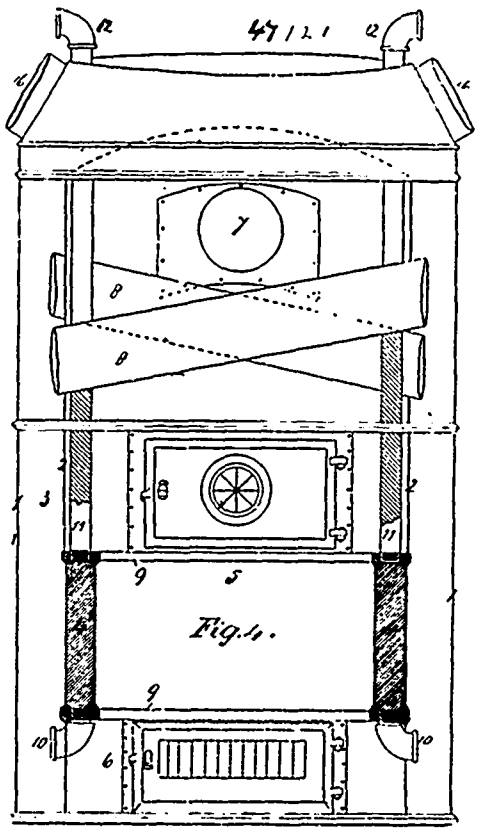
Claim.—1st. An ore roasting furnace consisting of a central stack, an ore roasting chamber surrounding the stack with openings to the

same, a series of vertically arranged combustion chambers encircling the roasting chamber and of substantially the same height as the roasting chamber, and a series of openings to the roasting chamber



in its inner wall from the top to the bottom, said openings being in line with the openings in the opposite wall of the roasting chamber, substantially as described. 2nd. An ore roasting furnace consisting of a stack, a roasting chamber surrounding the same, a series of vertically extending combustion chambers surrounding the roasting chamber and in communication therewith at various points in its height from the top to the bottom thereof, a gas conduit at the bottom of said combustion chambers having an outlet therefrom and an air inlet leading into the combustion chamber above the gas flue, substantially as described. 3rd. In an ore roasting kiln, an annular ore chamber, a series of combustion chambers arranged around said ore chamber and communicating therewith through a series of apertures in the intermediate wall, and air passages in said wall having apertures leading into the combustion chamber, all substantially as described. 4th. In an ore roasting kiln, a central draft space, a stack in connection therewith, an ore chamber encircling said space, with a series of openings at interval in the dividing wall, a series of combustion chambers around the ore chamber and communicating therewith, and a cap covering the upper end of the draft space, substantially as described.

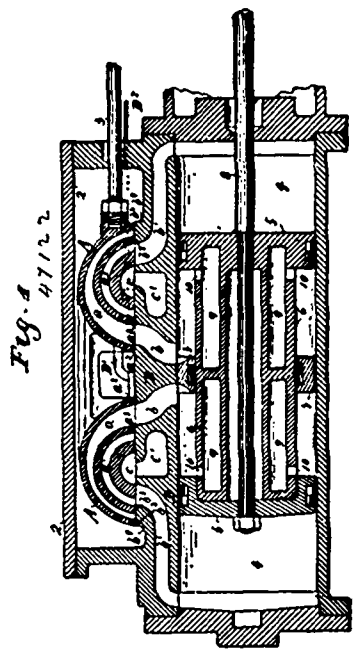
No. 47,121. Heater. (*Calorifère.*)



Donald Crawford Brown, Carthage, Missouri, U.S.A., and John Dickieson, Summerside, Prince Edward Island, Canada, 1st October, 1894; 6 years.

Claim.—1st. A combination heater convertible from a hot air to a hot air and steam, or a hot air and hot water heater, substantially as described. 2nd. In a heater, the combination of a dome having deflectors, a fire-bowl with a surrounding water space, inlet and outlet pipes to said water space, and one or more coils connected to the upper portion of the water space, substantially as described. 3rd. In a heater of the character described, the combination with a fire-bowl, of a water space surrounding the same, inlet and outlet pipes from said water space, and one or more series of coils connected to the upper portion of the water space, substantially as described. 4th. In a hot air heater, the combination of an upper dome and cross deflectors arranged at reverse angles, substantially as described. 5th. In a combined heater, the combination of an upper dome, a water space below said dome having upper and lower rings, inlet and outlet pipes from said space, and a coil attached to the upper ring, said water space surrounding a central fire-bowl, substantially as set forth.

No. 47,122. Engine. (*Machine à vapeur.*)

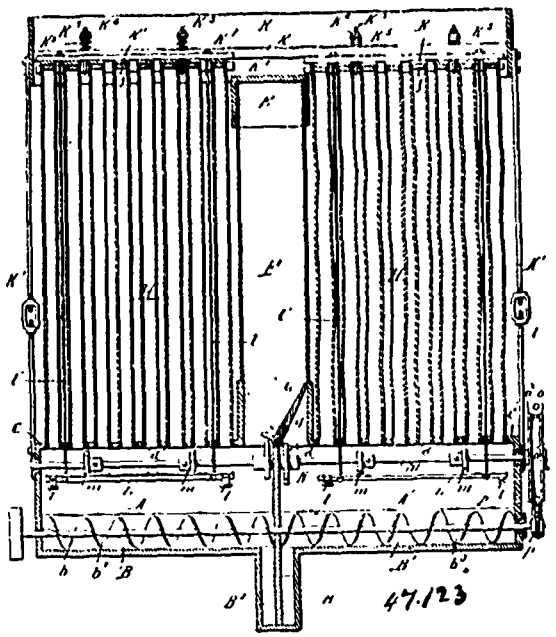


The Woolf Valve Gear Company, assignee of Ellis J. Woolf, all of Minneapolis, Minnesota, U.S.A., 1st October, 1894; 6 years.

Claim.—1st. In a compound engine, the combination with a valve-seat having a high and low pressure port, of a valve having an internal fluid passage, which, in one position of the valve, is uncovered and serves to convey the fluid to the high pressure port, and which, in the opposite position of the valve, serves to convey, in a reverse direction, the fluid from the high to the low pressure port, and means for final exhaust operative to permit the exhaust from the low during the admission to the high pressure port, substantially as described. 2nd. In a compound engine, the combination with a valve-seat having a high and a low pressure port, of a valve having an internal fluid passage, which, in one position of the valve, is uncovered and co-operates with the ordinary opening to render available an increased admission area to the high pressure port, for a given valve travel, and which, in the opposite position of the valve, serves to convey the fluid from the high to the low pressure port, and means for final exhaust operative to permit the exhaust from the low during the admission to the high pressure port, substantially as described. 3rd. In a compound engine, the combination with a valve-seat having a high and a low pressure port, of a valve having two internal fluid passages, which, in one position of the valve, co-operate to render available an increased admission area to the low pressure port, for the given valve travel, and means for final exhaust operative to permit the exhaust from the low during the admission to the high pressure port, substantially as described. 4th. In a compound engine, the combination with a valve-seat, having a high and a low pressure port, of a valve having in addition to the final exhaust cavity, two internal fluid passages, one of which in one position of the valve, is uncovered, and serves to convey fluid to the high pressure port, and both of which passages, in the opposite position of the valve, co-operate to render available an increased admission area to the low pressure port, for a given valve travel, substantially as described. 5th. In a compound engine, the combination with a valve-seat having a high and low pressure port, of a valve having, in addition to the final exhaust cavity, two internal fluid passages, one of which, in one position of the valve, is uncovered and co-operates with the ordinary opening, to afford an increased available admission area to the high pressure port, for a given valve travel, and both of which passages, in the opposite position of the

valve, co-operate with each other to render available an increased admission area to the low pressure port, for a given valve travel, substantially as described. 6th. In a double compound engine, the combination with the two independent valve-seats and the two independent valves on said seats, of a pair of independent supplementary fluid supply passages, each for connecting one high pressure cylinder with a source of fluid supply, and a valve in each of said passages controllable at will, for converting the compounds into simple engines, substantially as described. 7th. The combination with two single cylinder compound engines set tandem and having their pistons connected by a common trunk, of the two valve-seats, the two valves on said seats reciprocating in common directions, a pair of supplementary fluid passages, for connecting the respective high pressure ends of the two cylinders with the respective high pressure valve chests, and valves in said passages controllable, at will, for converting the said compounds into simple engines, substantially as described.

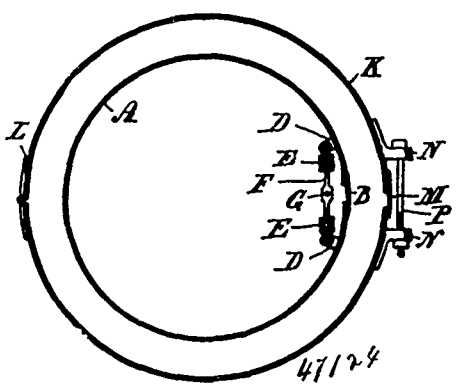
No. 47,123. Dust Collector. (*Aspirateur de poussière.*)



August Heine, Silver Creek, New York, U.S.A., 1st October, 1894; 6 years.

Claim.—1st. The combination, with a descending expansion chamber having an inlet for the dust laden air at its upper end, of a receiving chamber communicating at its top with the lower end of said expansion chamber and extending laterally on both sides thereof, and two sets of filtering tubes mounted on said receiving chamber on both sides of the expansion chamber and opening with their lower ends into the same, substantially as set forth. 2nd. The combination, with the receiving or settling chamber, of a descending air passage or expansion chamber having its walls constructed of filtering material and opening at its lower end into the receiving chamber, and two sets of filtering tubes opening at their lower ends into the receiving chamber, substantially as set forth. 3rd. The combination, with a receiving or settling chamber, of an air passage or expansion chamber opening at its lower end into the receiving chamber, an inlet chamber having its bottom connected with the upper end of the expansion chamber and provided with inlet spouts at both of its ends, and filtering tubes connected with the receiving chamber, substantially as set forth. 4th. The combination, with a descending expansion chamber, having an inlet for the dust laden air at its upper end, of a divided receiving chamber communicating at its top with the lower end of said expansion chamber and extending laterally on both sides thereof, two sets of filtering tubes mounted on said receiving chamber on both sides of the expansion chamber and opening with their lower ends into the same, and a valve mounted centrally on the divided receiving chamber whereby the dust laden air current can be excluded from either part thereof, substantially as set forth. 5th. The combination, with two receiving or settling chambers, of an air passage or expansion chamber adapted to communicate with either of said chambers, two sets of open ended filtering tubes, the tubes of each set opening into one of said receiving chambers, and a connecting chamber communicating with the open upper ends of both sets of filtering tubes, substantially as set forth. 6th. The combination, with two receiving or settling chambers, of an air passage or expansion chamber having a valve for placing said air passage in communication with either of said chambers, two sets of filtering tubes, open at both ends, the tubes of each set communicating at their lower ends with one of said chambers, a connecting chamber whereby the upper ends of both sets of tubes are placed in communication and a valve arranged in said connecting chamber and adapted to cut off communication between the upper ends of the two sets of tubes, substantially as set forth. 7th. The combination, with the divided receiving chamber, having two inlets and two sets of filtering tubes opening into said receiving chamber of a valve capable of being shifted for excluding the current from either part of the receiving chamber and a cam for actuating said valve, substantially as set forth. 8th. The combination, with the divided receiving chamber, having two inlets and two *sets of filtering tubes*, of a valve pivoted centrally upon the divided receiving chamber and provided with two lugs projecting from opposite sides of its pivot and two rotary cams engaging respectively with said lugs, each cam having its face provided with a projection, a recess arranged diametrically opposite the projection and provided with an abrupt front side and an inclined rear side and two concentric portions between opposite sides, of the projection and the recess, the cams being so arranged that the projection of one cam is in line with the recess of the other cam, substantially as set forth. 9th. The combination with the receiving chamber, the filtering tubes opening with their lower ends into said chamber and the spring connected with the upper ends of the tubes for holding the same taut, of a presser bar arranged in the receiving chamber, cords connecting said bar with the upper ends of the tubes and a tappet wheel arranged in the receiving chamber and adapted to depress said presser-bar for agitating the tubes, substantially as set forth. 10th. The combination with the divided receiving chamber, provided with two inlets and two sets of filtering tubes opening with their lower ends into the receiving chamber, a valve pivoted centrally upon the receiving chamber, and capable of being shifted for excluding the current from either part of the receiving chamber, a shaft arranged in the receiving chamber and provided with cams for shifting said valve, a spring yieldingly supporting the upper ends of the filtering tubes and holding the same taut, a pressure-bar arranged in the receiving chamber, and connected with the upper ends of said tubes, and tappet-wheels secured to said shaft and adapted to engage with said presser-bar for agitating the filtering tubes, substantially as set forth. 11th. The combination with the divided receiving chamber provided with two inlets and two sets of filtering tubes opening into the divided chamber, of a valve adapted to exclude the current from either part of said divided receiving chamber, a shaft arranged in said chamber and provided with a cam for shifting said valve, a driving wheel secured to the outer end of said shaft and provided with a peripheral groove and a toothed rim on opposite sides of said groove and a link belt arranged in said groove and provided with a cross-bar adapted to engage with said rim, substantially as set forth. 12th. The combination with a manifold head provided with a tube opening having a shoulder, of a filtering tube provided at one end with a ring which bears against said shoulder, substantially as set forth. 13th. The combination with the manifold head provided with a tube opening having a shoulder, of a filtering tube provided at one end with a ring which bears against said shoulder and staples whereby the ring is secured to the head, substantially as set forth.

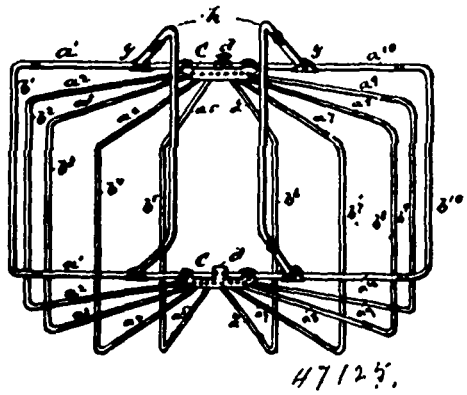
No. 47,124. Pipe Mould. (*Moule pour tuyaux.*)



William John Anthistle, London, Ontario, Canada, 1st October, 1894; 6 years.

Claim.—1st. A pipe mould consisting of an inner tubular cylinder or core A, having overlapping edges or attached strip B, and lugs D, along said opposite edges, sockets E, pintled to said lugs, and screw rods F, connecting said sockets in pairs, to expand and contract said core, and an outer tubular cylinder or shell K, having overlapping edges or attached strip M, and constructed of two semi-cylindrical sections hinged together, and provided with lugs N, along opposite meeting edges, said lugs connected by screw bolts P, as set forth. 2nd. A reversible moulding ring R, having annular V or U-shaped flange S, in combination with the contracting and expanding concentric tubular core A, and shell K, for forming an annular tongue and grooves at the ends of the pipe when moulded, as set forth.

No. 47,125. Folding Basket. (*Panier pliant.*)



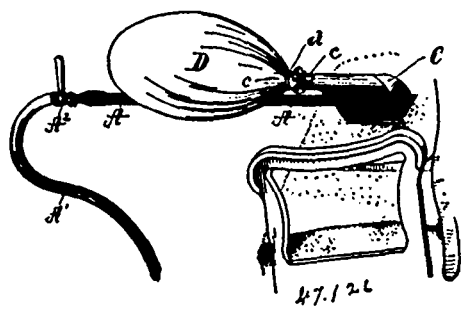
47,125.

Emily Moreland Hudgin, Cincinnati, Ohio, U.S.A., 1st October, 1894; 6 years.

Claim.—1st. In a folding basket or hand-receptacle, in combination with two opposite center-pieces, a series of yoke-shaped braces independently pivoted thereto and adapted to fold together in adjacent parallel cross-planes, substantially as set forth. 2nd. In a folding basket or hand-receptacle, a skeleton frame consisting of a plurality of yoke-shaped braces each independently pivoted to two opposite center-pieces and adapted to fold together in adjacent parallel cross-plates, each arm of each brace being hinged to its yoke-portion so that when thus brought together, the hinges at opposite sides are in common axis adapting the stems to fold inward as a body, substantially as set forth. 3rd. The combination, in a folding basket or hand-receptacle of opposite center-pieces, a plurality of yoke-shaped braces independently pivoted thereto in adjacent relations to swing outward, and catches at each side adapted to engage the inner ends of the two outer braces of the series, and retain them connected with the center-pieces, substantially as set forth. 4th. In a folding basket or receptacle, the combination of the yoke-shaped braces, the center-pieces consisting of the opposite plates with pins or rivets extending through and between them as pivots for the braces, and the spring catches adapted to project a hood over the joint formed by the abutting ends of the outer braces of the series, substantially as set forth. 5th. In a folding basket or hand-receptacle, the combination of the described system of folding braces, the center-pieces to which they are pivotally attached, and the yoke-handles pivoted to the outer braces between the center-pieces and the yoke-ends so as to fold downward with said braces, and when in use, aid in keeping the receptacle in proper position, substantially as set forth.

No. 47,126. Pneumatic Duster.

(*Epoussette pneumatique.*)



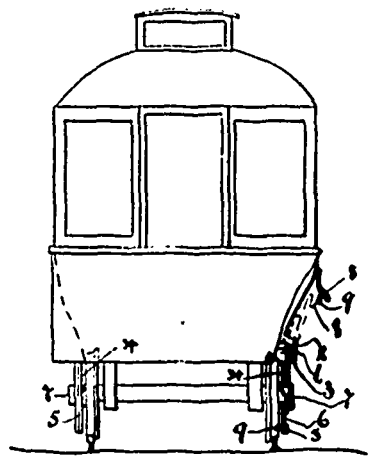
47,126

William E. Nation, Kakomo, assignee of Enoch Nation, Wilbur, both of Indiana, U.S.A., 1st October, 1894; 6 years.

Claim.—1st. The combination with an air pump hose or hose connected with a tank of compressed air, and a nozzle terminating said hose, and means for regulating the escape of air through the nozzle, of a hood enveloping the nozzle and having an opening opposite the outlet in the nozzle through which the compressed air may be brought into contact with the goods to be cleaned, and an outlet from the hood terminating in a strainer by which the impurities may be deposited and collected in a body and the air allowed to escape. 2nd. The combination with an air pump hose or a hose connected with a tank of compressed air, and a nozzle terminating said hose, and means for regulating the escape of air through the nozzle, of a hood enveloping the nozzle and having an opening opposite the outlet in the nozzle through which the compressed air may be brought into contact with the goods to be cleaned, and having an outlet from the hood terminating in a strainer, said strainer consisting in a cloth bag removably secured to the discharge outlet of the hood, substantially as described and for the purposes specified.

No. 47,127. Safety Appliance for Street Cars.

(*Appareil de sûreté pour chars de rue.*)



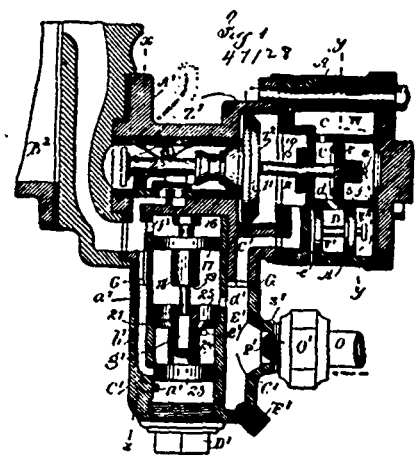
47,127.

Edouard Julien, and Treflé Berthiaume, both of Montreal, Quebec, Canada, 1st October, 1894; 6 years.

Claim.—1st. A street car fender consisting of a platform pivotally connected to the car, and having its front side inclined from a central point rearward, with suitable supports for same. 2nd. A street car fender consisting of a platform having its front side cushioned by rubber or analogous material extending from the level of such platform to within a short distance of the roadway for the purpose set forth. 3rd. A street car fender consisting of a platform carrying a shield in advance of the coupler bar for the purpose set forth. 4th. A street car fender consisting of a platform pivotally connected to the car, and suitably supported having its front side cushioned, and a support beneath the fender adapted to prevent its cushioned front coming in contact with the ground during the oscillation of the car. 5th. A street car provided with side guards adapted to close in the space between the bottom of the car and the roadway, for the purpose set forth. 6th. A street car provided with side guards in the form of flaps pivotally suspended from the bottom of the car to close in the space between such bottom and the roadway, for the purpose set forth. 7th. In combination with the outer longitudinal sills of the car bottom, of guard flaps 4, pivotally connected at their upper sides to said sills, so as to be suspended therefrom, and close in the space between such bottom and the roadway, for the purpose set forth.

No. 47,128. Air Brake for Cars.

(*Frein atmosphérique pour chars.*)



47,128

Nathaniel B. K. Hoffman, New York, State of New York, assignee of Jeremiah F. Voorhees, Philadelphia, Pennsylvania, both in the U.S.A., 2nd October, 1894; 6 years.

Claim.—1st. The combination, in an air brake apparatus upon a car with a triple valve that admits air from the auxiliary reservoir to the brake cylinder, of a separate automatic valve controlled by the relative pressures of air existing in the train pipe and in the auxiliary reservoir and acting to open and close an additional port between the auxiliary reservoir and the brake cylinder and independent of the triple valve and without admitting air from the train

pipe to the brake cylinder, substantially as set forth. 2nd. The combination, in an air brake apparatus upon a car and having an auxiliary reservoir brake cylinder and triple valve, of a piston connected to the triple valve, and a cylinder for such piston and connections to admit air under pressure from the brake cylinder to act at both sides of the piston and regulate the movement of the triple valve, a separate valve automatically controlled by the relative pressures in the auxiliary reservoir, brake cylinder and train pipe for allowing the escape of train pipe air to the external atmosphere, substantially as set forth. 3rd. The combination, in an air brake apparatus upon a car and having an auxiliary reservoir, brake cylinder and triple valve, of a separate valve automatically controlled by the relative air pressures in the train pipe and in the auxiliary reservoir and acting to allow air to escape to the external atmosphere from the train pipe, and also to open and close an additional port between the auxiliary reservoir and the brake cylinder, substantially as set forth. 4th. The combination, in an air brake apparatus upon a car and having an auxiliary reservoir, brake cylinder and triple valve, of a separate valve automatically controlled by the relative air pressures in the train pipe and in the auxiliary reservoir and acting to allow air to escape to the external atmosphere from the train pipe, and also to open and close an additional port between the auxiliary reservoir and the brake cylinder, and an automatic valve that allows air to pass from the train pipe to the reservoir when the pressure in the train pipe exceeds the pressure in the reservoir sufficiently to open the said valve when applying the brakes, substantially as set forth. 5th. The combination, with the train pipe and auxiliary reservoir in an automatic air brake, of an air discharge and auxiliary brake valve, consisting of a cylinder having different inside diameters, into which are fitted differential pistons connected by a stem, the offset in the cylinder forming a seat for the larger piston, a port for admitting air from the auxiliary reservoir to act on one side of the smaller piston, a port for admitting air from the train pipe to act on the larger piston, a port leading from the cylinder between the connected pistons to the open air, an independent regulating piston within the cylinder and a stem acting as a stop for the differential pistons, a knob or stop being provided at the opposite side of the regulating piston, a port for admitting air from the brake cylinder to act on top of the regulating piston, the air from the train pipe acting on the under side of the regulating piston and simultaneously on top of the larger differential piston, and a port for admitting air under pressure from the auxiliary reservoir to the brake cylinder covered by the smaller differential piston when in its normal position, substantially as set forth. 6th. In a car brake apparatus, the combination, with an automatic air brake, of the cylinder C^1 attached to the triple valve and having different inside diameters, the offset in the cylinder forming a seat, the differential pistons 23 and 25, connected by a stem 24, a piston 17, having a stem 18 attached to it with a smaller end fitting into a hole in the piston 25, and the stem 24 within the cylinder C^1, there being ports or ways a^1 and b^1 leading from the cylinder C^1, to the auxiliary reservoir and the brake cylinder through similar ports in the flange A^1 of the triple valve, a branch port f^1 leading from the brake cylinder to the cylinder C^1, a chamber E^1 having a connection for the train pipe, a port e^1, leading from the chamber E^1 to the triple valve, a port d^1, from the chamber E^1, into the cylinder C^1, a port c^1, from the cylinder C^1 to the atmosphere, the lower end of the cylinder C^1, being closed by a cap D^1, an air-tight joint being secured by the use of a gasket G, between the flanges A^1, of the triple valve and B^1, on the cylinder C^1, which are held together by the bolts b^1, b^1 for uniformly and quickly applying the brakes, substantially as set forth.

No. 47,129. Artificial Fuel. (*Combustible artificiel.*)

Jean D. Oligny, Montreal, Daniel O. Frye, Lachine Locks, both in Quebec, and Louis G. Harris, Toronto, Ontario, all in Canada, 2nd October, 1894; 6 years.

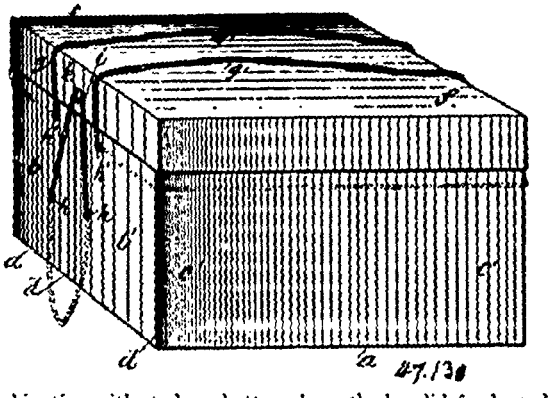
Claim.—1st. An artificial fuel composed of garbage, refuse, peat or other materials in such quantity as will completely absorb a composition consisting of one hundred gallons of sodius oil, ten pounds of chloride of calcium, three hundred and thirty-three grammes of caustic soda and one hundred and fifty grammes of powdered soap or in about the proportions named, the whole yielding about four tons of fuel, substantially as set forth. 2nd. A composition for the preparation of artificial fuel, consisting of one hundred gallons of sodius oil, ten pounds of chloride of calcium, three hundred and thirty-three grammes of caustic soda and one hundred and fifty grammes of powdered soap, or thereabouts, substantially as set forth.

No. 47,130. Folding Box. (*Boîte pliante.*)

The Folding Box Manufacturing Company, London, assignees of William Sanders and Walter Selley, both of Manchester, all in England, 2nd October, 1894; 6 years.

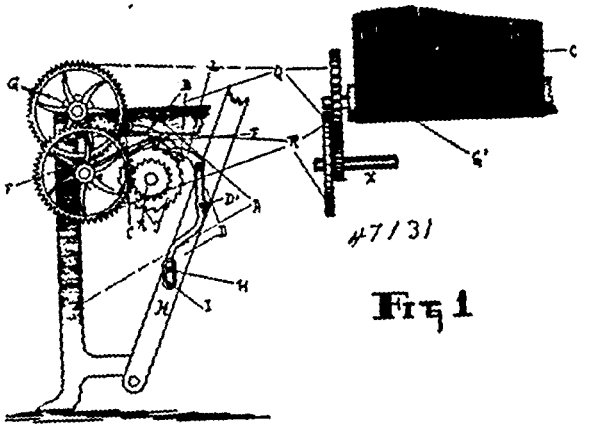
Claim.—1st. Forming the bottom *a*, of flexible material or in sections, and the ends or sides in two parts hinged together in a vertical sense, in combination with a stretcher or frame *c*, placed inside on the bottom *a*, of the box, substantially as and for the purpose set forth. 2nd. In combination with a folding box, as specified in the preceding claim, a combined lid fastening and handle, consisting of a cord, tape or their equivalent *g*, passed in loop fashion through holes *h*, h^1, formed in the ends or sides of the box

Fig. 1.



in combination with studs or buttons *k*, on the box lid *f*, adapted to receive the loop portions *i*, the lid *f*, and the handle portion g^1, substantially as and for the purpose set forth.

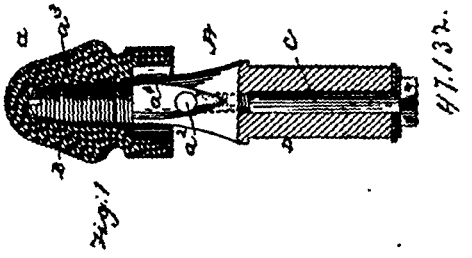
No. 47,131. Stop Motion for Looms.
(*Arrête-navette de métier.*)



James Jordon, St. Henry, Quebec, Canada, 2nd October, 1894; 6 years.

Claim.—1st. The combination with the ratchet-wheel J, of a loom, of the arm B, having the head M, to lift the pawl L, substantially as and for the purposes set forth 2nd. The combination of the arm B, having the head M, with the arm F, having the slide E, the adjustable stop S, and pin W, substantially as and for the purposes set forth. 3rd. A stop motion for looms consisting of the arms B and F, and an operating mechanism combined with the contiguous parts of a loom, substantially as and for the purposes set forth.

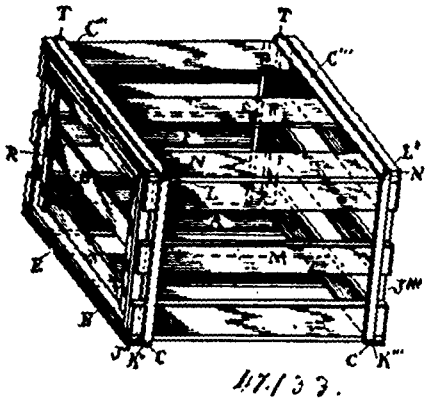
No. 47,132. Supporting-Insulator for Electric Wires.
(*Support d'isoloir pour fils électriques.*)



Lauren S. Beardsley, Naugatuck, Connecticut, U.S.A., 2nd October, 1894; 6 years

Claim. A holder for insulators consisting of a pin provided with screw threads designed to engage the screw-threads in the interior of a glass insulator, the pin having projecting therefrom a bolt, a bolster for the bolt, and means for securing the bolt in position, substantially as described.

No. 47,133. Crate. (*Baite.*)

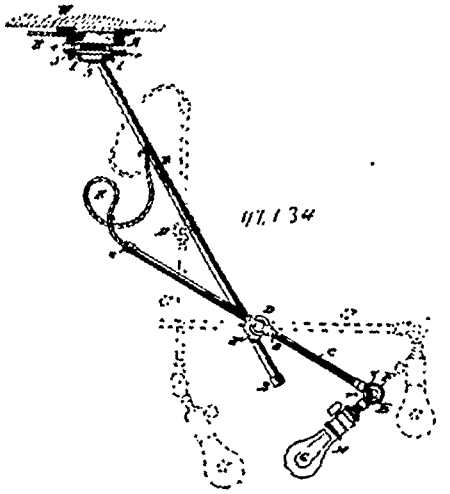


Felix Tarant Howell, Birmingham, Alabama, U.S.A., 2nd October, 1894; 6 years.

Claim.—A shipping crate consisting of a bottom with cleats E^1 E^1 on its ends, metallic clamps secured on the outside having eyes D, D^1, formed on both ends, a front and back with cleats H, H^1 and G, G^1, at the ends having a recess I between the cleats, the back having metallic clamps on the outside with curved tails K, formed on the bottom ends and eyes L, on the top, the front having metallic clamps on the outside with curved tails K formed on the bottom ends, and hook heads N on the top, a top having metallic clamps on the outside with curved tails formed on the back ends, and eyes to close and lock over the hook-heads on the front, two crate ends to fit in the recesses I, I, between the cleats on the front and back, the metallic clamps binding the parts of the crate together, all combined as set forth and described.

No. 47,134. Adjustable Support for Lamps.

(*Support pour lampes.*)

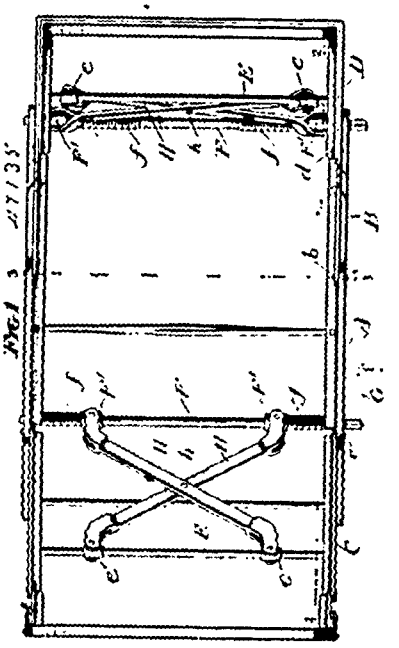


Otis C. White, Worchester, Massachusetts, U.S.A., 2nd October, 1894; 6 years.

Claim.—1st. In an adjustable supporter for lights, the combination of the main rod or tube having one of its ends adjustably attached to a support, the lamp-carrier rod or tube having means for attaching the lamp thereto, and the compound swivelling, sliding and clamping joint connecting said tubes one to the other in the manner set forth, whereby longitudinal and rotary adjustment on both tubes and swivelling adjustment of the carrier tube are effected, as described. 2nd. In an adjustable supporter for lamps, the attaching joint composed of the two open-centered plates, one provided with a seating-flange, an interior chamber and an opening through the side thereof, the triangular-disposed connecting-bolts passing loosely through said plates joining one with the other, and the open-centered ball supported by annular bearing surfaces between the plates, in combination with the main tube having its end confined within said ball, the conductor entering said chamber through the side opening and passing into said tube through its upper end, insulating bushings in the side openings and tube end, the carrier tube, the swivelling connecting joint therefor longitudinally adjustable upon and joining said tubes one with the other, the lamp-attaching wrist-joint and lamp, substantially as set forth. 3rd. In an adjustable supporter for lamps, the combination of the main rod or tube, the attaching joint consisting of two open-centered plates one provided with a seating-flange, the open-centered ball embraced by annular bearing surfaces within the plates and having the end of said tube adjustably confined therein, the connecting bolts disposed at triangular positions through said plate and having the bent washers thereon, the carrier tube, the swivelling connecting joint joining said tubes one with the other and longitudinally adjustable upon each tube, the off-setting wrist-joint attached to the end of said carrier-tube, the electric lamp socket secured to the outer end of said joint, and the conductor or wires extending through said carrier-tube and wrist-joint, all substantially as set forth. 4th. The herein described attaching joint A comprising, in combination, the centrally-chambered plate a^1 having a peripheral base or flange for attachment to the ceiling of support, the annular counter-plate a adjustably connected therewith, said plates respectively provided, internally, with the opposite annular bearing surfaces 5, the hollow spherical ball 3 confined between said annular bearing surfaces, the rod or tube B supported by said ball, the loosely fitting bolts I connecting said plates one with the other, and the bent steel washers J arranged on said bolts between the head or nut and the plate, all substantially as set forth. 5th. The wrist-joint composed of the centrally-pivoted frictionally matched discs, each provided at one edge with a tubular threaded hub axially off-set from the plane of the disc, a cupped spring-plate fitted to bear against the inner disc and having a nick at one side of its centre opening, and a projecting tang that enters one of said hubs, the pivoting screw having under its head a lug that engages the nick in said spring-plate, and the adjusting nut fitted on the threaded end of said pivot screw at the outer side of said discs, for the purpose set forth. 6th. The wrist-joint composed of two centrally-pivoted adjacently-matched discs, each having at its edge a radially-projecting tubular threaded hub, chambered at the inner end and provided with a tubular insulating bushing therein, said hubs disposed with their axes in a common plane, off-set from the plane of the discs, as shown, in combination with the carrier-tube fixed in one of said hubs, the lamp-socket attached to the other of said hubs, and the conductors leading through said hubs and bushings, substantially as and for the purpose set forth. 7th. In a supporter for electric lamps, the main tube adapted for receiving the conductor at its upper end, having a side opening at an intermediate position in its length for the issuance of the conductor, and an attaching joint in which said tube is adjustably sustained, said attaching joint having a hollow centre through which the conductor passes to said main tube, in combination with the lamp carrier tube externally connected with said main tube, and the conductor wires arranged as set forth.

No. 47,135. Reclining Chair, etc.

(*Fauteuil pliant, etc.*)



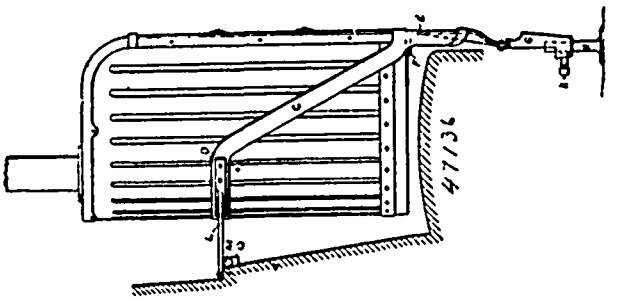
Amandes Hackman, Peoria, Illinois, U.S.A., 2nd October, 1894 6 years.

Claim.—1st. The combination with a hinged main section, of an auxiliary section hinged thereto, means for, at the will of the operator, connecting said main and auxiliary sections so that they move together, or disconnecting them, so that the auxiliary section may move independently of the main section, and means connected to the auxiliary section, and bearing against some other part of the device, for raising and lowering it, either alone or together with the main section, accordingly as they are connected or disconnected,

substantially as set forth. 2nd. The combination with two relatively movable sections, of a rod, journalled in one of said sections, and having right and left threads, a pair of collars, having a right and left threads, and fitting the threads of the rod, a rod carried by the other section, a pair of collars, mounted to slide upon said rod, and a pair of levers fulcrumed to each other, each lever having one of its ends pivotally connected to one of the threaded collars, and its other end pivotally connected to one of the smooth collars, substantially as set forth.

No. 47,136. Street Car Heater.

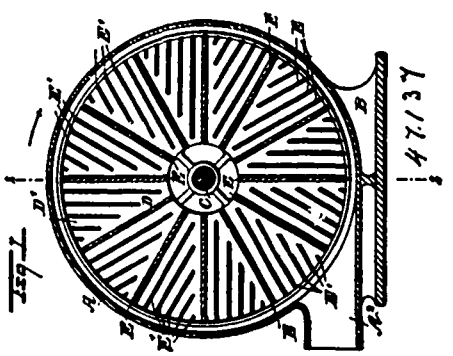
(*Appareil de chauffage des chars.*)



Menard K. Bowen, Chicago, Illinois, U.S.A., 2nd October, 1894; 6 years.

Claim.—1st. In a street car heater resting upon or supported above the seat, the construction of a casing having a circular back and the braces L, which, where they come in contact with the casing, possess a form corresponding to said casing, and which may be moved forward or backward around the arc of said casing to *adjust it to any car seat of whatever width, substantially as hereinbefore* set forth. 2nd. In a street car heater resting upon or supported above the seat, the construction of a casing having a circular back, and adjustable braces L, having the lug M, with the socket O, which at each and any position of the braces L, as they are moved forward or backward around the arc of the casing serve to assist the fastening of the braces to the car seat back, substantially as hereinbefore set forth. 3rd. In a street car heater, the combination of a stove set into a casing, and the band C, apron E, and shelf F, in one piece, which form a framework, into which the casing may be placed to support it in any position, substantially as hereinbefore set forth. 4th. In a street car heater, the combination with a stove set into a casing, of the band C, apron E, shelf F, braces L, and adjustable legs G, H, all substantially as and for the purposes set forth. 5th. The combination of a stove and casing, having a circular back and framework to support the casing above and independent of the car seat, substantially as and for the purposes set forth. 6th. A heater for street cars composed of a stove set into a casing in combination with a framework which has fastenings at the top of the car seat back and upon the car floor which supports said heater above and independent of the car seat, substantially as hereinbefore set forth. 7th. A casing for a street car stove, constructed of wooden slats arranged vertically, between each two slats being left an opening or slot, substantially as and for the purposes hereinbefore set forth. 8th. The combination of a casing for a street car stove constructed of wooden slats arranged vertically, between each two slats being left an opening or slot, and the metal sheet B, substantially as and for the purpose hereinbefore set forth.

No. 47,137. Centrifugal Blower. (*Souffleur centrifuge.*)

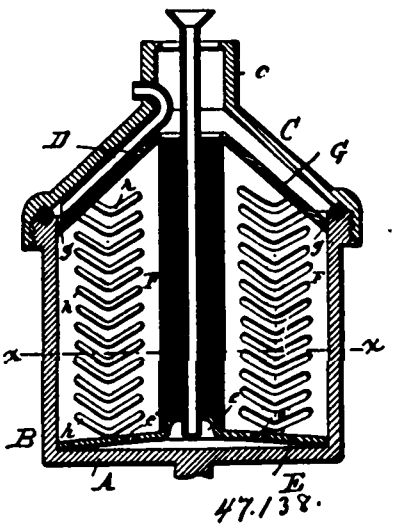


William Henry Harrison, Newark, New Jersey, U. S. A., 2nd October, 1894; 6 years.

Claim.—1st. In a centrifugal blower, a fan wheel having a series of plane, radially diverging main vanes, forming passages for the air from the centre of the wheel to the periphery thereof, and a set of auxiliary vanes for each main vane and arranged parallel thereto, and extending from the periphery of the wheel to within a short distance of the next following main vane, so as to produce a radial passage along the said main vane, and a series of parallel passages branching off from the said radial passage, substantially as described. 2nd. In a centrifugal blower, a fan wheel consisting of two frusto-conical end pieces placed with their bases adjacent and parallel to each other, and with their contracted ends facing in opposite directions, trapezoidal main vanes secured between the said end pieces, and auxiliary vanes extending between the end pieces from the bases thereof to within a distance from the tapered ends of the end pieces, the said auxiliary vanes being arranged in step like fashion between each two main vanes, substantially as described.

No. 47,138. Centrifugal Separator.

(*Séparateur centrifuge.*)



Jesse Edward Folk, Brooklyn, New York, U.S.A., 2nd October, 1894; 6 years.

Claim.—1st. The combination, with the bowl, of vertical radial division plates arranged closely together within the liquid space of the bowl, whereby the body of liquid is divided into vertical radial laminae or thin layers, substantially as set forth. 2nd. The combination, with the bowl having a removable cover and means for separately discharging the separated liquids, of a removable division contrivance consisting of a false bottom having a central inlet for the liquid to be separated, a top having a central outlet for the escape of the light separated liquids, and upright division plates connected at their lower and upper ends respectively with said false bottom and said top, substantially as set forth. 3rd. The combination, with the bowl having outlets for separately discharging the separated liquids, of a false bottom having a central inlet for the liquid to be separated, and outlets for said liquid located between said inlet and the outer edge of said false bottom, and upright radial division plates surmounting said false bottom, whereby the liquid in the bowl is divided into radial laminae or thin layers and is fed into said layers in numerous fine streams from the bottom of the bowl and between the zones of light and heavy separated liquids, substantially as set forth. 4th. The combination, with a separator bowl, of corrugated division plates arranged vertically within the bowl, substantially as set forth. 5th. The combination, with a separator bowl, of vertical division plates provided each with two rows of corrugations inclined in opposite directions, substantially as set forth. 6th. The combination, with a separator bowl having a closed bottom and a contracted discharge neck at its top, of vertical division plates each provided with two rows of corrugations inclined toward the neck of the bowl, substantially as set forth.

No. 47,139. Pleated Goods and Clasp therefor.

(*Marchandies plissées et agrafe.*)

Frederick S. Pinkham, Everett, Massachusetts, U.S.A., 2nd October, 1894; 6 years.

Claim.—1st. As an improved article of manufacture, pleated goods having the edges of adjacent pleats connected at intervals by

metallic clasps, substantially as described. 2nd. As an improved article of manufacture, pleated goods having its pleated edges united at intervals by metallic clasps which keep said edges separated one from the other, substantially as described. 3rd. The herein described clasp for uniting the adjacent pleats of pleated goods, it consisting of a pliable metallic strip having a V-shaped central or body portion *a*, adapted to enter between the two folded edges of the cloth, and having overturned ends *b*, *b*, which co-operate with the upper ends of said V-shaped portion to nip said folded edges, and thereby permanently hold the material folded, substantially as described.

No. 47,140. Combined Military Garment and Belt.

(*Vêtement militaire et ceinture combinés.*)

Fig. 7.

Edmund Rice, Chicago, Illinois, U.S.A., 2nd October, 1894; 6 years.

Claim.—1st. A belt or strap provided with flaps or extensions adapted to be spread to form a garment, substantially as specified. 2nd. A belt having a body portion, and flexible flaps or extensions, said flaps adapted when extended to form a garment, and when folded to lie contiguous to the body portion, substantially as specified. 3rd. A belt provided with flaps or extensions adapted to be spread to form a garment, and means for holding the flaps or extensions when folded, substantially as specified. 4th. A belt provided with terminal fastening devices, and having flaps or extensions provided with means for holding the same in position when in use as a garment, substantially as specified. 5th. A belt provided with flaps or extensions, and short straps attached to the belt and adapted to secure said flaps or extensions when folded, substantially as specified. 6th. A belt provided with flaps or extensions and supporting or suspending devices attached to the said flaps or extensions and adapted to be engaged with articles to be carried, substantially as specified. 7th. In a belt, the combination of a body portion, flaps or extensions adapted to be folded contiguous to the body portion, and supporting or suspending devices adapted to be exposed when the flaps or extensions are folded, substantially as specified.

No. 47,141. Blasting Powder. (*Poudre à mine.*)

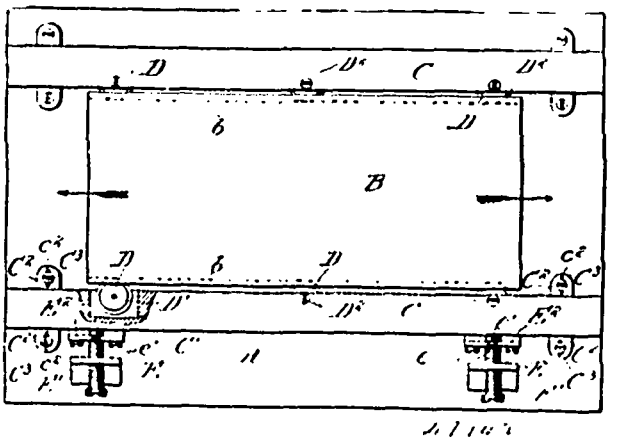
Benjamin Cory Pettingell, Victoria, British Columbia, Canada, 2nd October, 1894; 6 years.

Claim.—1st. The combination of wood pulp with nitre, sulphur and coal or coke dust in the composition of explosives. 2nd. The process of mixing nitre with coal or coke dust in the manufacture of explosives by dissolving the nitre before mixing it with the coal or coke dust. 3rd. The composition of nitre, sulphur, wood pulp, coal or coke dust, and black blasting powder, as an explosive, substantially in the proportions above described.

No. 47,142. Method of Reciprocating Parts of Mechanism. (*Moyen de réciprocation de parties de mécanisme.*)

Zalmon Gilbert Sholes, Chicago, Illinois, U.S.A., 3rd October, 1894; 6 years.

Claim.—1st. The combination with a piece of mechanism to be reciprocated, of wheels arranged at opposite sides of said part and in engagement therewith, and means for effecting an adjustment of said wheels parallel to the plane of said wheels and parallel to their axes, substantially as described. 2nd. The combination with the part B, of wheels D, located at each side of and engaging said part B, vertically adjustable mechanism supporting the wheels at one side of said part B, and mechanism for shifting said supporting mechanism toward and from said part B, substantially as described. 3rd. The combination with the base A, and part B, of rails C, screw plugs D^2,



supported by said rails, wheels D, supported by said screw plugs and engaging said part B, and screw bolts E^1, and suitable connections for shifting one of said rails toward and from the part B, substantially as described.

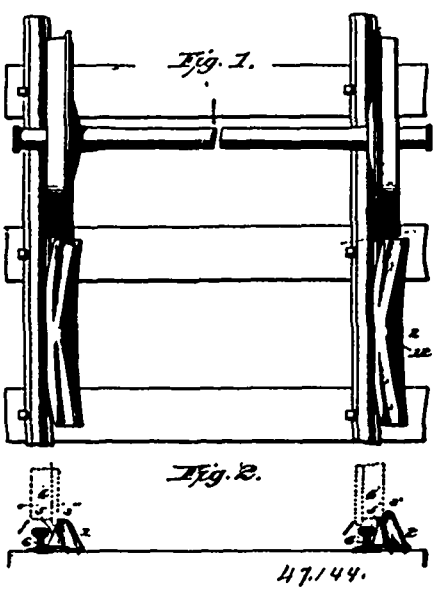
No. 47,143. Soap. (*Savon.*)

Jacob Mellinger, Baltimore, Maryland, U.S.A., 3rd October, 1894; 6 years.

Claim.—1st. A soap for removing hair from the skin, comprising natrium sulphide hydrate incorporated with a suitable soap vehicle, as and for the purpose set forth. 2nd. A soap for removing hair from the skin, comprising sulphide hydrate of sodium, incorporated with a suitable soap vehicle, and glycerine as an emollient, as set forth. 3rd. A soap for removing hair from the skin, comprising natrium sulphide hydrate, and a soap vehicle composed of tallow, cocoa-nut oil, oil of rhiccini and lye, substantially as and for the purpose set forth. 4th. A soap for removing hair from the skin, comprising natrium sulphide hydrate, combined with a soap vehicle, glycerine, and a suitable aetherical oil, all of which are intimately combined for the purpose described.

No. 47,144. Car Replacer.

(*Appareil à remettre les chars sur la voie.*)



The Alexander Car Replacer Manufacturing Company, Scranton, assignee of Robert E. Alexander, Forest City, both in Pennsylvania, U.S.A., 3rd October, 1894; 6 years.

Claim.—1st. A car-replacer comprising a pair of grooved replacers or guides adapted to be placed alongside the rails, and having laterally and longitudinally sloping outer surfaces converging to a smooth apex, the apexial portion of one of the replacers or guides being made lower than the apexial portion of the other, whereby the wheels are successively deposited upon the track, in the manner and for the purpose substantially as described. 2nd. In a car-

replacing device a pair of replacers of different heights, and provided with smooth apexial portions, in combination, with grooved surfaces sloping downwardly away from said apexial portions and curved divergent edge whereby the ends of the replacers can be moved toward and away from the rail, in the manner and for the purpose substantially as described. 3rd. A car-replacing member consisting of a grooved guide substantially as described, having an apexial portion, and a sloping inner side arranged to lie alongside of and to diverge away from the rail at the central or apexail portion, whereby the ends of the replacers can be adjusted toward and away from the rails, as and for the purpose set forth. 4th. In a car-replacer, a replacing member or guide provided with oppositely sloping surfaces, having longitudinal grooves therein and longitudinal ridges extending upwardly and merging into the smooth apexial surface, said surface extending from the apex obliquely down to the edge of the base, and said base being made to diverge from the smooth surface toward its end, in the manner and for the purpose substantially as described.

No. 47,145. Precipitating Precious Metals.

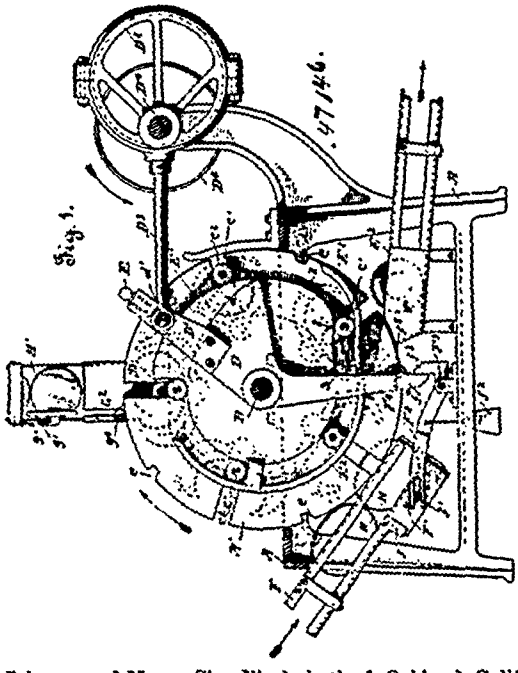
(*Précipitation de métaux précieux.*)

John S. MacArthur, Pollokshields, County Renfrew, Scotland, 3rd October, 1894; 6 years.

Claim. 1st. In precipitating precious metals from cyanide or similar solutions by means of zinc or of aluminum, applying lead or a specified substitute therefor, substantially in any of the modes and for the purposes hereinbefore described. 2nd. In precipitating precious metal from cyanide or similar solutions containing mercury in addition to such precious metals, the use of lead for precipitating the mercury prior to the precipitation of the precious metals, substantially as hereinbefore described.

No. 47,146. Can-Making Machine.

(*Machine à faire les boîtes métalliques.*)



Axel Johnson and Henry Clay Black, both of Oakland, California, U.S.A., 3rd October, 1894; 6 years.

Claim.—1st. In a can-making machine, the combination with the carrier-wheel, provided with clamping jaws, of mechanism for placing body blanks within the jaws and heads upon the blanks, and devices for closing the jaws in order to fold the blanks around the can heads and closing the side seam of the body. 2nd. A can-making machine provided with devices for receiving can body blanks and can heads, and with mechanism for folding the can body around the heads, closing the side seam of the can and discharging the can from the machine. 3rd. In a machine for making cans having tight-fitting inside heads, the combination with a device for receiving the can body blank and can heads, and folding the can body blank around the heads, and holding the same thereabout until the side seam is secured, with mechanism for closing the side seam of the can, thereby securing the can body outside of the heads. 4th. In a machine for making cans having tight-fitting inside heads, the combination with a chute or devices for delivering the can body blanks to the machine, a movable device for receiving the can body blanks, a chute or device for placing the head within the can body blank, mechanism for closing the movable device in order to fold the can body around the can heads and holding the same therearound, until the side seam is closed, and mechanism for closing the side seam, thereby securing the can body outside the can heads. 5th. In a can-making machine, the combination with the clamping jaws for receiving can body blanks, a feed chute for supplying blanks to the clamping jaw, and a device for conveying the blanks from the chute to the clamping jaws. 6th. In a can-making machine for automatically assembling can body blanks and can heads and folding the blanks around the heads, whereby a can with tight inside fitting heads is produced, the combination with the movable clamping jaw for receiving the blanks and heads, devices for feeding the blanks and heads to the jaw, mechanism for closing the clamping jaw in order to fold the body blank around the heads and so holding the same until the side seam of the can is closed, and of devices for closing the side seam of the can body while held around the heads. 7th. In a can-making machine, the combination with the carrier-wheel of the movable clamping jaw, devices for opening and closing the clamping jaw, the mandrel for closing the seam of the can formed by the clamping jaw, mechanism for forcing the mandrel in or out of the jaw, lift rod for raising the mandrel so as to bear against the under face of the seam of the can and of a device for forcing the jaw tightly upon the seam of the can. 8th. In a can-making machine, the combination with the clamping jaw for receiving can body blanks and heads, mechanism for closing the clamping jaw in order to fold the body blank around the heads, a device for maintaining the jaw closed until the side seam of the can is closed, a mandrel for entering the can body in order to close the seam, mechanism for forcing the mandrel within the can body, and raising the same so as to bear against the under face of the side seam, device for forcing the clamping jaw firmly upon the side seam, and of mechanism for lowering the mandrel and withdrawing the same from within the can after the side seam is closed. 9th. In a can-making machine, the combination with the clamping jaw, of the mandrel adapted to enter the can body formed by the clamping jaw, of mechanism for imparting a longitudinal movement to the mandrel, and of a device for forcing the clamping jaw tightly against the side seal of the can body held within the jaw in order to close the same. 10th. The combination, with the clamping jaw of a can-making machine, of a madrel adapted to enter within the can body formed by the machine, and of mechanism for imparting longitudinal and vertical movement to the mandrel, whereby the mandrel is forced into the can, raised to bear firmly against the under face of the seam, lowered after the seam is closed, and then removed from within the can. 11th. In a machine for forming cans by folding the body around the heads, the combination with the clamping jaws, of mechanism for opening and closing the jaws, of the mandrel for bearing against the under face of the side seam of the can, mechanism for imparting a reciprocating and vertical movement to the mandrel, and of a device for forcing the clamping jaw tightly against the upper face of the side seam, and causing it to close by pressure upon the mandrel. 12th. In a can-making machine, the combination with the carrier-wheel, the clamping jaw composed of two sections swinging upon the same shaft, and of mechanism for imparting an intermittent motion to the carrier-wheel, said mechanism comprising therewith a sector cam, which upon its forward thrust serves to close the clamping jaw, and upon its rear movement carries the carrier-wheel therewith. 13th. In a can-making machine, the combination with the carrier-wheel, of the mandrel, mandrel-rod, mechanism for moving the rod in or out in order to cause the mandrel to enter the can held within the carrier-wheel, or to be withdrawn therefrom, and of a device for raising and lowering the mandrel. 14th. In a can-making machine, the combination with movable devices for receiving can body blanks within the same, of mechanism for causing the closure of the movable devices in order to fold the can body around the can heads, and of a mandrel for bearing against the under face of the side seam of the can body, said mandrel having a longitudinal and vertical movement. 15th. In a can-making machine, the combination with the carrier-wheel, of a movable clamping jaw for receiving body blanks and heads, mechanism for closing the clamping jaw, whereby the body blank is folded around the can heads, and devices for closing the side seam of the can. 16th. In a can-making machine, the combination of devices for receiving can body blanks and heads, folding the body blanks around the heads, closing the side seam thereof, and discharging the completed can from the machine. 17th. In a can-making machine, the combination with the movable clamping jaw composed of two sections, one of said sections having the upper portions thereof secured thereto by a spring hinge, mechanism for feeding can body blanks, and can heads to the clamping jaw when the sections are opened, the heads being placed inside the body blanks, devices for closing the clamping jaw in order to fold the body blank around the can heads, and device for closing the side seam of the can, whereby the heads are tightly secured inside the can body. 18th. In a can-making machine, the combination with the can head feed chutes, movable can head guide secured upon the lower ends of the chutes, said guide having a vertical movement, devices for raising said guide as the clamping jaw of the machine is closed, and of a device for maintaining the guide in its raised position until the next clamping jaw comes thereunder. 19th. In a can-making machine, the combination with the can head feed chute, the can head guide movably secured to the lower end thereof, and mechanism for feeding can heads to the guide as the guide is raised

and lowered. 20th. In a can-making machine, the combination with the can head feed chute, the spring-actuated dog secured thereto for regulating the feed of the can heads, and a movable guide, secured to the lower end of the can head feed chute, for receiving the can heads from the can head feed chute, and conveying same to the clamping jaws of the can machine. 21st. In a can-making machine, the combination with the clamping jaw, of the feed chute, a movable guide device for receiving the heads from the chute, and placing same within the jaw holding same in place therein until the jaw is closed, and devices for closing the jaw and raising the guide from the same. 22nd. In a can-making machine, the combination, with the carrier-wheel, said wheel composed of two discs, one of which is provided with a series of notches around the periphery thereof, clamping jaws held between the discs, cam carrying spring-actuated catch for engaging the notched disc of the carrier-wheel, mechanism for reciprocating the cam in order to impart an intermittent motion to the carrier-wheel, and of devices for closing and opening the clamping jaws during the rotation of the carrier-wheel in order to form the can and discharge the same from the machine. 23rd. In a can-making machine, the combination, with the carrier-wheel, said wheel composed of two discs, one of which has a series of vertical slots cut therein, a clamping jaw secured between the discs, said jaws composed of hinged sections, straps connecting the sections of the jaws, axle to which the free ends of the straps are secured, said axle extending through the vertical slots in one of the discs of the carrier-wheel, a roll secured to the outer end thereof, a reciprocating cam for raising said roll in order to close the clamping jaw, and of mechanism for operating said cam. 24th. In a can-making machine, the combination, with the can head feed chute, of the crimper rolls, one of said rolls provided with a circular groove, and the other with a circular flange which fits therein, and one provided with a longitudinal lip, and the other with a longitudinal groove into which said lip fits, said circular grooves, flanges, longitudinal lip and groove, forming side grooves and outwardly and inwardly hooked ends to the body blank when passed therethrough. 25th. In a can-making machine, the combination, with the carrier-wheel, a mandrel, mandrel casing secured to the carrier-wheel, mandrel rod, mechanism for forcing the mandrel rod in or out of the can, and devices for raising and lowering the mandrel.

No. 47,147. Crushing Machine. (*Machine à broyer.*)

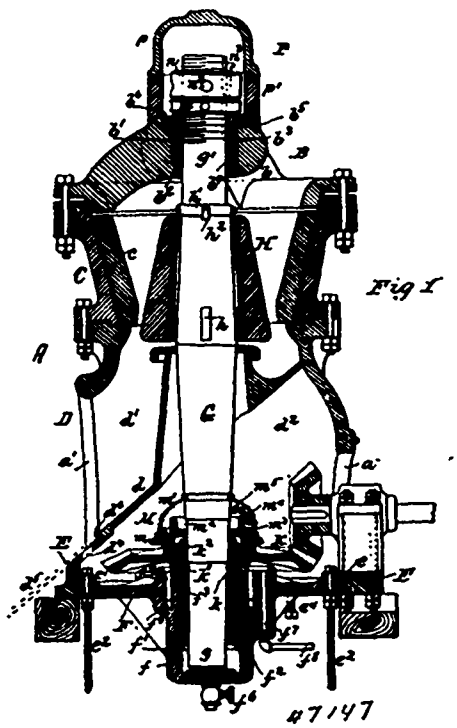


Fig 1

47147

Robert McCully, Philadelphia, Pennsylvania, U.S.A., 3rd October, 1894; 6 years.

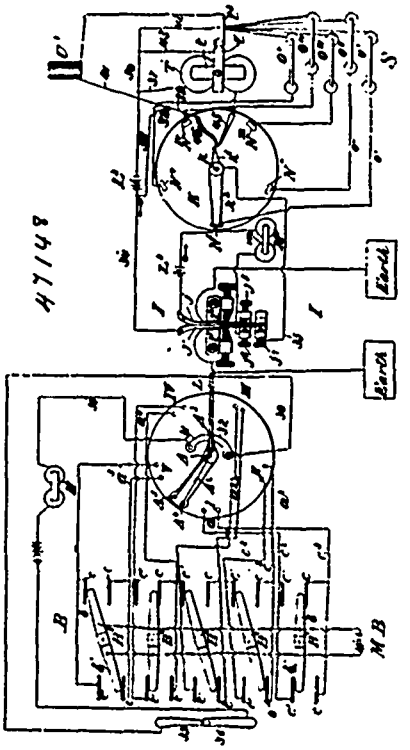
Claim.—1st. In a crushing machine having an eccentrically gyrating shaft, a single supporting and adjusting screw rod directly engaging with the top of said shaft and having a bearing located at the top of the machine, substantially as described. 2nd. The combination, with the shaft G having top recess or bore, a tubular plug in said bore, a support T having a head t^3 in said bore and passing through said plug, top holding nuts or keys for said bolt or support, and oil passages, substantially as described. 3rd. In a gyratory machine, a crusher head shaft upheld from the top of the machine by a single axially located support having a direct connection with the upper end of the shaft, and mechanism on said support for vertically adjusting it and the crusher head on the shaft to take up the wear of the crushing surfaces or to graduate the degree of fineness of the crushing, substantially as described. 4th. In a crushing machine, the combination of a gyratory shaft having a cylindrical upper end, a bore or recess in said end, a hollow tubular screw plug in said bore, and a single tubular screw bolt or rod support engaging with the under side of said plug for supporting and vertically adjusting said shaft, substantially as described. 5th. In combination, with the recessed upper end of a gyratory crushing shaft, a tubular plug g^2 supporting and adjusting screw rod passing through and engaging with said plug, and a support or bearing for said screw rod, substantially as set forth. 6th. The combination, with a gyratory shaft and frame of a crushing machine, a single supporting screw rod located at and having a bearing on the top of said frame, and engaging directly with the top of the shaft, substantially as set forth. 7th. In a crushing machine having a gyratory shaft, a freely suspended and adjustable single supporting device T engaging with the top of the shaft, and oiling channels for the bearing surfaces of said shaft and supporting devices, substantially as set forth. 8th. In combination, with shaft G, having recess g^4, tubular plug g^2, screw rod T, having nut t, with depending flanges t^1, and frame top plate having bearing for said nut, substantially as set forth. 9th. In a gyratory crusher, the combination, with the top plate or spider having a hub opening, a gyratory shaft, and sectional cover for the top of said hub opening, substantially as set forth. 10th. In combination with the spider or top plate hub opening, of a gyratory crusher, a two part or sectional cover, and rabbetted meeting edges for said sections and hub opening, substantially as set forth. 11th. In combination with a gyratory crusher, a removable bottom, short and long length securing bolts for said bottom, and set screws interposed between the bolts, substantially as and for the purpose set forth. 12th. In a gyratory crusher the combination of removable bottom F, bolts c^2 c^3, chute d, having opening d^4 and rabbett or recess d^6 and extension chute d^5, substantially as set forth. 13th. In a gyratory crusher the combination of a gyratory shaft having upper threaded end, supporting, adjusting and locking nuts at said end, and the threads of the shaft having different surface contact with the nuts, substantially as set forth. 14th. In a gyratory crusher a shaft having at its upper end superposed, adjusting and locking nuts, the threads of the upper nut sustaining the entire weight of the shaft and crusher head and downward pressure of crushing, and the threads of the lower nut being relieved of such weight and pressure, substantially as set forth. 15th. In combination with a gyratory shaft having an upper threaded end, an adjusting and a locking nut on said end, a key engagement between the adjusting nut and shaft, and a set screw for the locking nut, substantially as set forth. 16th. A gyratory crushing machine having the actuating devices for the shaft located or supported upon the bottom plate and the latter removable from the machine without dismantling the same, substantially as set forth. 17th. A gyratory crushing machine having a lower section D, with inwardly projecting bottom flange, and removable bottom F, secured to said flange, substantially as set forth. 18th. In a gyratory crushing machine the lower section or frame D having a chute, counter shaft and man-hole side openings, an inwardly projecting bottom flange, and a removable bottom F, secured to said flange, substantially as set forth. 19th. A lower section for a gyratory machine having an open bottom and an inwardly projecting flange and a removable bottom plate bolted to said flange, substantially as set forth. 20th. In combination with gyratory crusher shaft working eccentric and driving wheel, a cap m having a chain or equivalent connection with said shaft, substantially as set forth. 21st. In a crushing machine having a gyratory shaft, the combination of bottom F having well f, and inwardly projecting flange f^1, a bushing f^2 supported on said flange and actuating devices for the lower end of said shaft, substantially as set forth. 22nd. In a crushing machine the combination of a gyratory shaft having a cylindrical upper end, a bore or recess in said end, a hollow tubular screw plug in said bore, a single tubular screw bolt or rod support engaging with the under side of said plug for supporting and vertically adjusting said shaft, and a sleeve bearing for the cylindrical upper end of said shaft, substantially as set forth. 23rd. In a gyratory crusher, the combination of a gyratory shaft having an upper threaded end, supporting, adjusting and locking nuts at said end, the threads of the shaft having different surface contact with the nuts and a supporting sleeve bearing b^3 for said upper threaded shaft end, substantially as set forth.

No. 47,148. Electrical Signalling System.
(*Système de signal électrique.*)

Alfred Samuel McCaskey, Chicago, Illinois, U.S.A., 3rd October, 1894; 6 years.

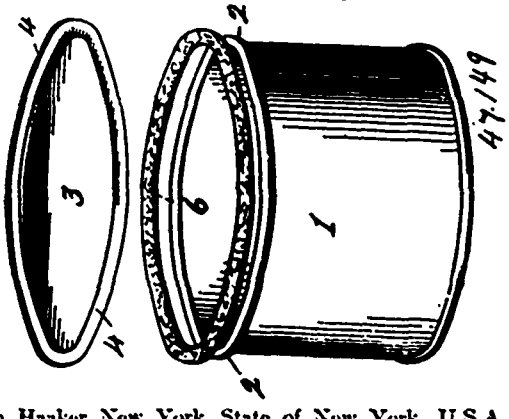
Claim.—1st. In an electric-signalling system, the combination of a transmitting circuit-maker in the main line, a series of battery branch terminals in the path of said circuit-maker, a circuit-changer in each of said battery-branches, and a series of keys each operating a distinct combination of circuit-changers whereby signals composed each of a distinct arrangement of impulses may be sent to line, as set forth. 2nd. An electric signal transmitting device, comprising in combination a rotary main-line circuit-maker, a series of branches leading from a battery to terminals in the path of said circuit-

maker, a series of circuit-changers, one in each branch, a series of keys each representing a different character, and connections between said keys and circuit-changers, whereby each key operates a distinct



combination of circuit-changers and sends to a line a signal made up of an impulse or group of impulses differing in number of impulses or the intervals that separate them, substantially as described. 3rd. In an electrical signalling transmitting apparatus, the combination of a rotary main line circuit-maker, a series of battery branches connected to terminals in the path of said circuit-maker, a pole-changer or current reverser in each branch, and a series of keys each operating a distinct combination of pole-changers, whereby the normal connections of any one or more of the battery branches at the points of contact with the circuit-maker may be reversed by striking the proper key, substantially as described. 4th. In an electrical signalling transmitting instrument, the combination of a main line circuit-maker, a series of battery branches adapted to be connected to line by said circuit-maker, a series of circuit-changers one in each branch, a series of keys exceeding the number of circuit-changers, a series of rods one connected with each key, actuating bars for said circuit-changers, and projecting arms on said rods for operating said bars, each rod having a distinct number or arrangement of arms, so that it actuates a distinct combination of circuit-changers, substantially as described. 5th. The described combination-forming mechanism, comprising, the combination of finger-keys, a series of rods, one for each key, each rod having one or more projecting arms, and a series of transverse bars, arranged relatively to said rods and arms as set forth, so that each rod actuates a distinct bar or combination of bars, substantially as described. 6th. The combination, with the main line circuit-maker, the finger-keys, pole-changers and key-levers, and connections whereby the said pole-changers are actuated from the said key-levers, of a catch or holder for engaging a key when depressed, a releasing magnet for withdrawing said catch, a circuit including said magnet, and contacts controlled by said circuit-maker for closing the circuit of said magnet at the proper time, substantially as described. 7th. In an electrical signalling system, the combination with a transmitting apparatus adapted to send to line impulses of either polarity, of a polarized relay magnet having its coils wound in opposite directions and provided with two vibrating tongues each set nearer to one of the poles than to the other so that one is normally attracted in one direction and the other in the opposite direction, and local circuits having contacts controlled by said tongues, as set forth. 8th. The combination in a polarized relay, of a permanent magnet having at one end two reversely wound coils with their cores at one end, and at the other end two pivoted tongues free to vibrate between the extremities of the cores, one being normally attracted by the permanent magnetism toward one of the cores, and the other toward the opposite core, whereby the tongues will respectively respond to currents of opposite polarity, as set forth. 9th. The combination with the transmitting apparatus, including a rotary circuit-maker and a series of battery branches connected to terminals arranged at suitable distances apart in the path of said circuit-maker, of a distributor comprising a circuit-maker, and terminal contact points corresponding with those of the transmitting apparatus, escapement mechanism for arresting the arm of the distributor at each contact, an escapement magnet for releasing the distributor arm at each impulse traversing the line from the transmitting station, and a motor for driving said arm at a greater speed than the circuit-maker of the transmitting station, substantially as described. 10th. The combination with a transmitting apparatus including a rotary circuit-maker, a series of batter branches connected to terminals in the path of said circuit-maker, pole-changers, one in each branch, whereby a current of either polarity can be sent to each line at each contact point, a polarized relay at the receiving station controlling two local circuits, a distributor in one of said circuits, controlling contacts in branches corresponding with battery branches of the sending station, driving mechanism for said distributor, an escapement therefor, an escapement magnet in both of said local circuits, substantially as described. 11th. The combination of a series of parallel selecting bars, a magnet for moving each bar independently of the others, and a series of transverse rods intersecting said bars and normally upheld by lugs, said bars having release notches adapted to register with said lugs when the bar is moved by its magnet, substantially as described. 12th. The combination of a series of selecting bars, electro-magnetic operating mechanism therefor, a series of rods, each controlled by a bar or combination of bars, a head bar normally upholding all the rods, and means for depressing said head bar when the desired selecting bar or combination of bars has been operated, substantially as described. 13th. The combination of a series of parallel selecting bars having release notches and locking lugs, a series of transverse rods, each controlled by a distinct bar or combination of bars, and each having notches and lugs adapted to register with certain of those on the selecting bars, and means for moving any bar or combination of bars longitudinally, thereby releasing one of the rods and locking all the others, substantially as described. 14th. The combination of a transmitting apparatus comprising a rotating circuit-maker, a series of contact points in the path thereof, pole-changers one in the circuit of each contact point, circuits and connections whereby a series of impulses of negative or positive polarity may be thrown to line during the rotating of the circuit-maker, a distributor at the receiving station comprising a rotating arm adapted to move in unison with the transmitting circuit-maker, a series of contacts in the path of said arm corresponding in number and location with the contact points at the transmitting station, a polarized relay in the main line controlling the circuits through the contact points of the distributor selecting magnets in separate branches terminating each at one of said contacts, selecting bars actuated each by one of said magnets, and a series of rods each controlled by one of said bars, or by a combination of bars, substantially as described. 15th. The combination with the selecting bars, and the rods controlled thereby of a magnet for each selecting bar, and a restoring magnet and its circuit, and connections as set forth for restoring the selecting bars to their normal positions, substantially as described. 16th. In an electrical signalling system comprising terminal and intermediate stations connected by a line conductor, the combination of a transmitting apparatus at the several stations adapted to send signals composed of groups of impulses of positive and negative polarity, main batteries at the two terminal stations of the line, switches whereby a portion of the batteries at one or the other may be cut out, and circuit connections between the line and the local transmitters, whereby to send currents in one direction both the terminal batteries are included in circuit, and to send reverse currents the stronger group of batteries are cut out, and the line completed to earth at the transmitting station, thereby giving each station while transmitting complete control of the polarity of the line, substantially as described. 17th. The combination with the selecting mechanism comprising a series of selecting bars, electro-magnetic actuating mechanism therefor, and character rods each actuated by a distinct bar or combination of bars, of recording mechanism, whereby the movement of each rod is recorded, substantially as described.

No. 47,149. Tin Can. (*Boîte métallique.*)



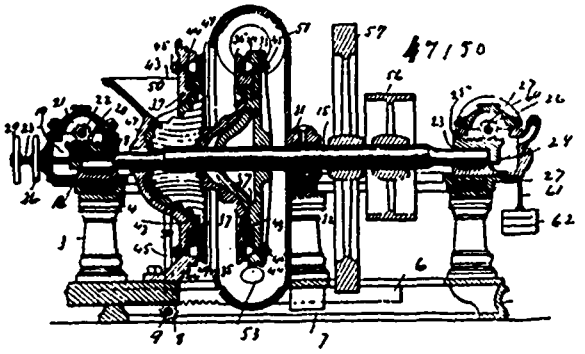
William Haaker, New York, State of New York, U.S.A., 3rd October, 1894; 6 years.

Claim.—The combination with a can having an outwardly extend-

ing annular flange at its edge, of a cover therefor, having a depressed central portion bounded by a perpendicular wall having a right-angled flange of a width greater than that of the can body, and a paper washer interposed between the flanges of the can and the body and having a width greater than that of the flange of the can body and less than that of the flange of the cover, the said washer fitting closely against the said perpendicular wall, whereby it may be clamped in three directions and held securely in place during the process of curling and uniting the flanges, in the manner, as hereinbefore set forth.

No. 47,150. Crushing or Grinding Machine.

(*Machine à broyer.*)



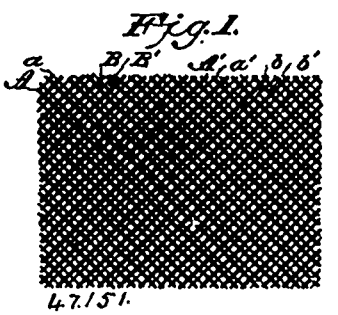
Cornelius Kimplen, Chicago, Illinois, U.S.A., 3rd October, 1894; 6 years.

Claim.—1st. The combination with a frame 47, an inner crushing plate 48 and an outer grinding ring 49, of a supporting head 33 having a flange 43, an inner crushing plate 34 having a peripheral flange 37, an outer grinding ring having a recessed part with which interlock the said flanges on the supporting head and crushing plate, and devices for securing the outer grinding ring to the supporting head to clamp the inner crushing plate to said supporting head, substantially as described. 2nd. The combination with a frame 47, a crushing plate 48 and a grinding ring 49, of a supporting head 33 having a flange 43, an inner crushing plate 34 having a peripheral flange 37, an outer grinding ring having a recessed part with which interlock the said flanges on the supporting head and crushing plate, and clamping bolts 45 extending through the supporting head 33 and the grinding ring which interlocks with the said flanges on the supporting head and crushing plate, substantially as described. 3rd. The combination with a frame 47 and a running-head 33 each provided with a flange 43, the inner crushing plates 34 and 48 mounted respectively on the running head and frame and each provided with a peripheral flange 37, the outer grinding rings each composed of a series of segments having recesses in their inner edges with which interlock the said flanges on the running head, the frame and the inner crushing plates, and clamping bolts for clamping the grinding ring sections to the running head and the frame, substantially as described. 4th. The combination with a supporting head or plate, having a flange 43 and recess 42 upon its inner face, of a grinding ring consisting of segments 35, each segment having a recess adapted to fit over the flange 43, and a recess 38, having inclined sides 39, wedge nuts in said recesses 38, and bolts 45 passing through the supporting head and adapted to screw into said nuts, substantially as described. 5th. The combination with a supporting head or plate, having an annular recess 42 and flange 43, of a crushing plate 34 mounted thereupon, said crushing plate having peripheral flange 37, a grinding ring composed of segments 35, each of said segments having a recess 41, adapted to clamp the flanges 37 and 43 together, and devices for securing said sections in place, substantially as described. 6th. The combination, with a supporting head or plate, having an annular recess 42, and flange 43, of a crushing plate 34 mounted thereupon, said crushing plate having peripheral flange 37, a grinding ring composed of segments 35, said segments having recesses 38 and 41, the recesses 38 having inclined walls 39, a wedge nut 44 in each recess 38, and bolts 45 passing through the supporting head, and screwing into the nuts 44, substantially as described. 7th. The combination, with a casing 51, and a crushing plate 48, of a running-head 33 provided with radial mortises 54^a, and the plates 54 arranged in said mortises and provided with spoons 53 projecting radially from the running-head, substantially as described. 8th. The combination, with a casing 51, and a crushing plate 48, of a running-head 33 provided with radial mortises 54^a, the plates 54 arranged in said mortises and provided with spoons 53 projecting radially from the running-head, and bolts 45 securing the said plates to the running-head, substantially as described.

No. 47,151. Screen. (*Tamis.*)

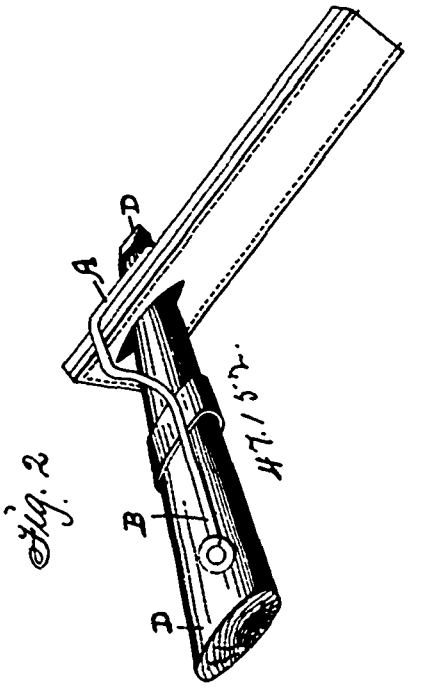
Max Levy, Philadelphia, Pennsylvania, U.S.A., 3rd October, 1894; 6 years.

Claim.—1st. A grating or screen, for the purpose set forth, which consists of parallel lines of varying thickness and distance apart and crossed so as to form transparent apertures of varying sizes arranged in groups. 2nd. In a grating or screen, for the purpose set forth, the combination of alternately thinner and thicker lines spaced at



alternately greater and less distance apart and crossed by a similar series of lines similarly placed. 3rd. A grating or screen, for the purpose set forth, the combination of alternately thinner and thicker parallel lines spaced at alternately greater and less distance apart and crossed by a single set of uniform parallel lines. 4th. In a grating or screen, for the purpose set forth, the combination, with two sets of lines crossed at right angles with each other, of two other sets of lines crossing the first two sets diagonally at regular intervals forming different size transparent apertures arranged in groups. 5th. In a grating or screen, for the purpose set forth, the combination, with two sets of lines crossed at right angles with each other, of two other sets of lines crossing the first two sets diagonally at regular intervals, forming at their intersections different size obstructions arranged in groups. 6th. A photo-mechanical half-tone printing surface, the subdivisions of which consists of regularly disposed groups of dots the individual members of each group differing from each other.

No. 47,152. Trace Fastener. (*Crochet de palonnier.*)

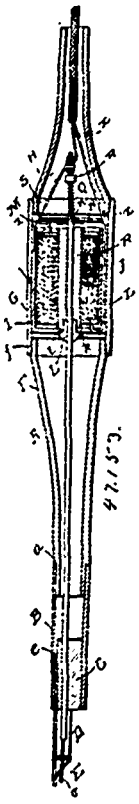


Frederick D. Stalford, Des Moines, Iowa, U.S.A., 3rd October, 1894; 6 years.

Claim.—An improved trace fastener, made of a single piece of spring wire, consisting of an elbow-shaped loop that is contracted at its open end, two mating lengths of straight wire extending from the open end of the loop and adapted to clasp fast their entire lengths upon the opposite sides of a single tree, as shown, and pivots extending at right angles from their free ends to enter a bore in a single tree in such a manner that the mating straight lengths will be normally retained in parallel position with the end portion of a single-tree and the main part of the elbow-shaped loop project forward at right angles to the single-tree, as and for the purposes shown and described.

No. 47,153. Electric Perforating Pen.

(*Plume électrique à percussion*)



Aron Dabney Lewis, Canton, Missouri, U.S.A., 3rd October, 1894; 6 years.

Claim.—1st. In an electric perforating pen, the combination with the electric-magnet having a vibrating armature, a longitudinally reciprocating needle connected to said armature, and the leading-in wires, of a sectional hollow penholder consisting of a central cylindrical casing section removably receiving the electro-magnet, the tapered holder portion carrying the pen point and inclosing therein the reciprocating needle, and an upper tapered extension cap inclosing the leading-in wires and providing a proper length for the penholder, said penholder sections being detachably joined together, substantially as set forth. 2nd. In an electric perforating pen, a hollow penholder, the pen point having a guide lug on its under side, an electric magnet removably mounted inside of the hollow penholder and having a vibrating armature, springs arranged at both sides of said armature, and one of which is included in the electric circuit, and a longitudinally reciprocating needle removably attached at one end to the magnet armature and working in a direct line with the pen point, substantially as set forth. 3rd. In an electric perforating pen, the sectional hollow penholder consisting of opposite exteriorly threaded tubular portions and an intermediate enlarged cylindrical casing removably receiving the ends of such opposite portions, the pen point inserted in one end of the penholder, an electro-magnet removably clamped in position inside of the penholder casing and having a vibrating armature, the leading-in wires enclosed within one end of the holder and connected with the magnet devices, and a longitudinally reciprocating perforating needle connected at one end to the magnet armature and adapted to have its other end vibrate beneath and beyond the pen point, substantially as set forth. 4th. In an electric perforating pen, a hollow penholder having a centrally disposed cylindrical casing, the pen point having a guide lug on its under side, a cylindrical magnet box removably clamped in position within the pen holding casing, an electro-magnet similarly held in position within the magnet box, a vibrating armature disc arranged at one end of the magnet box and the magnet therein, circuit connections, and a reciprocating perforating needle having a perforating point at one end working through the pen point guide lug and attached at its other end to the armature disc, substantially as set forth. 5th. In an electric perforating pen, a hollow penholder having a cylindrical casing in a line with the body thereof, a cylindrical magnet box closed and perforated at one end and adapted to be removably clamped within the penholder casing, an electro-magnet mounted within the magnet box, and having a perforated core threaded at one end, a perforated screw passing through the perforated end of the magnet box and engaging the threaded end of the magnet core, a vibrating armature disposed at one end of the magnet box, circuit connections, and a longitudinally reciprocating perforating needle working through the perforated magnet core, and the perforated screw and attached at its inner end to the armature disc, substantially as set forth. 6th. In an electric perforating pen, a hollow penholder having a cylindrical casing, a cylindrical magnet box adapted to be clamped inside of said casing, and having a longitudinally perforated core, and a guide pin at one end, a vibrating armature disc disposed at one end of the magnet box, and having a perforation loosely moving over said guide pin, a relieving spring arranged between the armature disc and the magnet, an off-standing bracket arm attached to one end of the magnet box, a contact spring adjustably held-off from said bracket arm and disposed at one side of the armature disc, circuit connections, the pen point, and the longitudinally reciprocating perforating needle removably attached at one end to said vibrating armature, substantially as set forth.

No. 47,154. Brake-Beam. (*Sommier de frein.*)

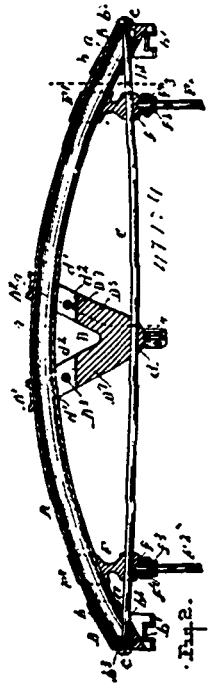


Fig 2.

Thomas H. Simpson, Detroit, Michigan, U.S.A., 3rd October, 1894; 6 years.

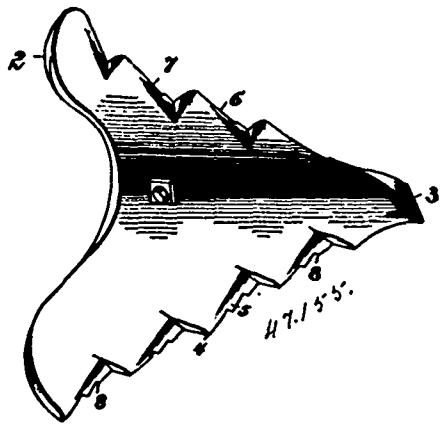
Claim.—1st. In a trussed brake-beam, the combination of a compression member A, brake-heads B, and a tension member C, all formed, arranged and combined, substantially as and for the purpose set forth. 2nd. In a trussed brake-beam, the combination of an arched compression member A, a tension member C, and a strut D, all formed substantially as specified and for the purpose set forth. 3rd. In a trussed brake-beam, the combination of a compression member A, brake-heads B, a tension member C, and a strut D, all formed substantially as specified and for the purpose set forth. 4th. In a trussed brake-beam, the combination of a compression member A, a tension member B, and wheel guard clips F, all formed, arranged and combined, substantially as specified and for the purpose set forth. 5th. In a brake-beam, the combination of an arched compression member A, a tension member C, wheel guard clips F, and guard fingers F^2, all formed substantially as specified and for the purpose set forth. 6th. In a trussed brake-beam, the combination of an arched compression member A, a tension member C, a strut D, and means to compress said strut upon the compression member, all parts formed, arranged and combined, substantially as specified and for the purpose set forth.

No. 47,155. Plough-Point. (*Soc de charrue.*)

Charles H. Heimlich and Frederick G. Heimlich, Venice, Ohio, U.S.A., 3rd October, 1894; 6 years.

Claim.—1st. The herein described plough-point having one of its edges provided with a series of chisel-pointed teeth disposed at an obtuse angle to the line of draft, and the chisel-point of each tooth having a series of serrations, substantially as specified. 2nd. The herein described plough having one of its cutting edges provided with a series of teeth having chisel-points, and opposite the same having channels disposed in the line of draft, the cutting edges of said teeth being disposed at an obtuse angle to the line of draft of the plough, substantially as specified. 3rd. The herein described improved plough-point, the same having its landside provided with a series of grooves arranged parallel to each other and to that of the draft, substantially as specified. 4th. The herein described plough having

the under side of its point provided with a series of grooves arranged in line with the draft, substantially as specified. 5th. The herein described plough having one of its surfaces provided with a series of



grooves disposed parallel to each other and to the line of draft of the plough and having inclined bottoms, substantially as specified. 6th. The herein described plough, the same having one of its edges provided with a series of chisel-pointed teeth whose cutting edges are arranged at an oblique angle to the line of draft of the plough, the under side of said plough being provided with grooves having inclined bottoms arranged opposite the teeth, substantially as specified. 7th. The herein described plough, the front cutting-edge and mould board cutting-edge of which are provided with a series of chisel-pointed teeth having cutting edges disposed at an obtuse angle to the line of draft, the mould board and under side of the plough being provided with a series of grooves whose bottoms are inclined and which intersect the cutting edges of the teeth, substantially as specified.

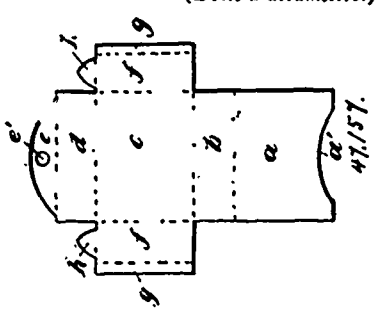
No. 47,156. Stamp for Printing Embroidery Patterns.

(*Estampe pour emprimer des patrons de broderies.*)

John E. Garrett, New Glasgow, Nova Scotia, Canada, 3rd October, 1894; 6 years.

Claim.—A stamp for printing embroidery patterns on osnaberg or coarse textile material, comprising two or more sections cemented to a cardboard back, as set forth.

No. 47,157. Match Box. (*Boîte à allumettes.*)

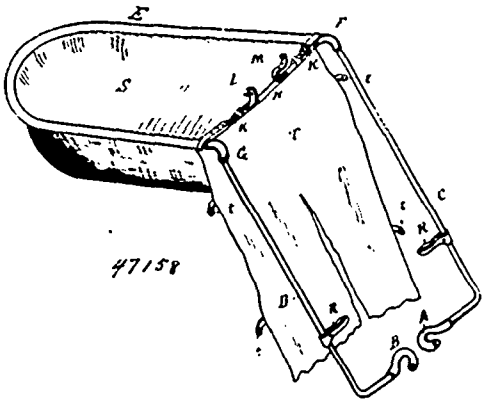


The E. B. Eddy Company, assignee of George Henry Millen, both of Hull, Quebec, Canada, 4th October, 1894; 6 years.

Claim.—In a combined match box and safe, the combination of the notched front *a* bottom *b* back *c* top *d* and perforated flap *e* comprised in a substantially rectangular piece of a stiff but pliable material, the sides *f* joined integrally to the edges of the back and having joining strips *g* and flaps *h*, the joined lines lacerated or incized and a piece of rubbing material secured to the front, substantially as set forth.

No. 47,158. Child's Seat for Bicycle.

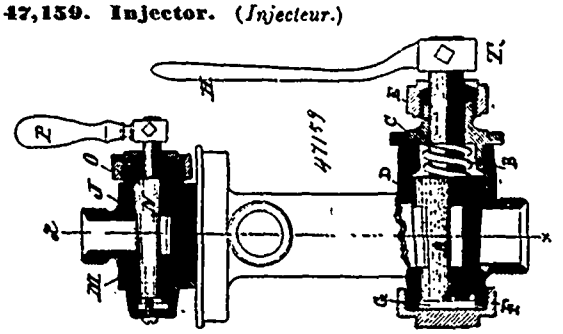
(*Siège d'enfant pour bicycles.*)



Fred A. Coulson, Detroit, Michigan, U.S.A., 4th October, 1894; 6 years.

Claim.—1st. In combination with the steering post and handle-bar of a bicycle, a seat frame comprising a bar having the bends F and G, the loop E, the downward extending branches C, D, terminating in hooks A and B, substantially as described. 2nd. The combination of a seat frame adapted to rest over the handle-bars of a bicycle, provided with a seat supporting loop behind the handle-bar and with depending hook terminated arms, a strap extending from one side of the frame to the other and provided with a centrally located buckle and strap and adapted to engage the post, substantially as described. 3rd. The combination of a seat frame adapted to rest over the handle-bar of a bicycle and provided with a backward extending seat supporting loop, and with depending hook terminated arms, a sagging seat and aprons dropping therefrom, substantially as described. 4th. The combination of a seat frame adapted to rest over the handle-bar of a bicycle, and provided with a backward extending seat supporting loop, and with depending hook terminated arms, a sagging seat and aprons dropping therefrom, and means for securing the aprons to the depending arms, substantially as described. 5th. In a bicycle seat, the combination of a frame adapted to rest over the handle-bar, and to be spread by the curve thereof, a strap adapted to prevent too great spread of the seat, the hook terminated clasping arms adapted to clasp the handle post and to be held in tight engagement therewith by the spreading action of the handle-bar, substantially as described.

No. 47,159. Injector. (*Injecteur.*)

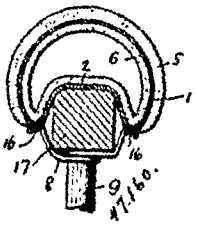


William H. Sterling, City of St. John, New Brunswick, Canada, 4th October, 1894; 6 years.

Claim.—1st. The combination with the body of an injector, of a top K, screwing thereon to make a tight joint, and having a 3-way gland cock provided with a 3-way plug, for supplying steam to the injector, as set forth. 2nd. In combination with the body of the injector having a 4-way gland cock, and a 3-way plug provided with ports of different capacity, of the spiral spring B, bonnet C, and packing nut E, containing a ring packing, substantially as set forth. 3rd. An injector having a cock provided with a 3-way plug and having a 4-way barrel, of a case cap F, screwing on the small end of the barrel, and provided with a stop screw G, engaging a notch in the end of said plug, to limit the rotation, for the purpose set forth. 4th. In an injector as set forth, the passage R, enlarged at the port, to relieve sudden pressure while forcing water to the

boiler. 5th. The steam nozzle S, on the forcing side of the injector having a regulating screw plug T, to reduce the outlet, as set forth.

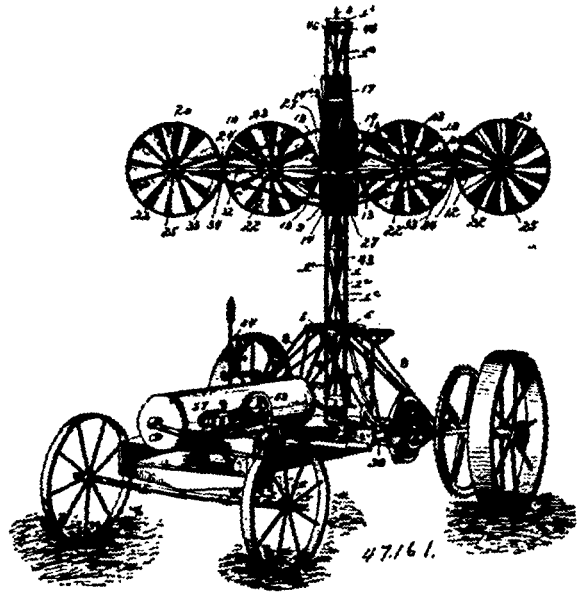
No. 47,160. Pneumatic Tire. (*Bandage pneumatique.*)



George Charles Moore, Easthampton, Massachusetts, U.S.A., 4th October, 1894; 6 years.

Claim.—1st. A lining fabric consisting of a self-shaped tube composed of two unequal longitudinal segments, the large segment having its greatest length at midwidth thereof, and its minimum length in its marginal portions at both sides of such length, the margins of such segment constituting oppositely located portions of least fixed length for the tubular fabric, and the small segment connecting the said margins, substantially as described. 2nd. A lining fabric consisting of a self-shaped tube composed of two unequal longitudinal segments, the large segment having its greatest length at midwith thereof, and its minimum length in its marginal portions at both sides of such length, the margins of such segment constituting oppositely located portions of least fixed length for the tubular fabric, and the small segment connecting the said margins, it containing a greater length of fullness at midwidth than adjacent to the said margins, substantially as described. 3rd. A lining fabric consisting of a self-shaped tube composed of two unequal longitudinal segments, the large segment having its greatest length at midwidth thereof, and its minimum length in its marginal portions at both sides of such length, the margins of such segment constituting oppositely located portions of least fixed length for the tubular fabric, and the small segment connecting the said margins, it having its greatest length at midwidth thereof, and being progressively shorter in the successive portions intermediate such length and the said margins, substantially as described. 4th. A shoe or cover for pneumatic tires, having a fabric foundation or lining consisting of a self shaped tube composed of two unequal longitudinal segments, the large segment being located in the outer or tread portion of the shoe or cover and the small segment in the inner portion of the shoe or cover which contacts with a wheel-rim or felly, the said large segment having its greatest length at midwidth thereof, and being progressively shorter in the portions at both sides of such length, the margins of such segment constituting oppositely located portions at least fixed length for the tubular fabric, and the said small segment connecting the said margins, substantially as described. 5th. A shoe or cover for pneumatic tires, having a fabric foundation or lining consisting of a self-shaped tube composed of two unequal longitudinal segments, the larger segment being located in the outer or tread portion of the shoe or cover and the small segment in the inner portion of the shoe or cover, which contacts with a wheel-rim or felly, the said large segment having its greatest length at midwidth thereof and being progressively shorter in the portions at both sides of such length, the margins of such segment constituting oppositely located portions of least fixed length for the tubular fabric, and the said small segment connecting the said margins, it containing a greater length or fullness at midwidth than adjacent to the said margins, substantially as described. 6th. A shoe or cover for pneumatic tires, having a fabric foundation or lining consisting of a self-shaped tube composed of two unequal longitudinal segments, the large segment being located in the outer or tread portion of the shoe or cover, and the small segment in the inner portion of the shoe or cover which contacts with a wheel-rim or felly, the said large segment having its greatest length at midwidth thereof, and being progressively shorter in the portions at both sides of such length, the margins of such segment constituting oppositely located portions of least fixed length for the tubular fabric, and the said small segment connecting the said magins, it having its greatest length at midwidth thereof and being progressively shorter in the portions at both sides of such length intermediate, such length and the said margins, substantially as described. 7th. The combination with the rim or felly of a wheel, of a pneumatic tire, having a shoe or cover which is crescent-shaped in cross-section and composed of two unequal segments joined at their margins, of which the large segment constitutes the face or tread portion of the shoe or cover, and the small segment lies against the surface of the rim or felly of a wheel, of a pneumatic tire, having a shoe or cover which is crescent-shaped in cross-section and composed of two unequal segments joined at their margins, of which the large segment constitutes the face or tread portion of the shoe or cover and the small segment lies against the surface of the rim or felly with the sides of the shoe or cover extending inwardly by the sides of the rim or felly, and detachable securing devices engaging with the said sides of the shoe or cover and holding it removably in place on the rim or felly, substantially as described. 8th. The combination with the rim or felly of a wheel, of a pneumatic tire having a shoe or cover which is crescent-shaped in cross-section and composed of two unequal segments joined at their margins, of which the large segment constitutes the face or tread portion of the shoe or cover and the small segment lies against the surface of the rim or felly with the sides of the shoe or cover extending inwardly by the sides of the rim or felly, wires at opposite sides of the rim of the wheel in engagement with the said sides of the shoe or cover, and detachable securing devices engaging with the said wires and the wheel and removably holding the shoe or cover in place on the rim or felly, substantially as described. 9th. The shoe or cover for pneumatic tires consisting of a tubular lining or foundation fabric and an elastic covering or surfacing, the said lining having one end thereof inserted into the other to form a lap-joint extending entirely around the shoe or cover and secured therein except at the inner side, where such ends, in addition to being overlapped, are left disconnected from each other to permit of the insertion of the air-tube, substantially as described.

No. 47,161. Windmill. (*Moulin à vent.*)

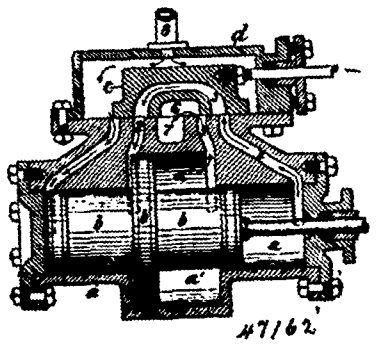


Arey Van Winegarden, Anthony, Kansas, U.S.A., 4th October, 1894; 6 years.

Claim.—1st. In a windmill, the combination of a vertically disposed rotating standard constructed of metal and composed of angle corner bars, top and bottom plates connecting the ends of the corner bars and crossed-braces arranged in vertical series and connecting the corner bars, a vertically adjustable frame slidingly mounted thereon, a suitable shaft journalled in suitable bearings of and rotating on the standard and with the same, wind-wheels mounted on the frame, and gearing connecting the wind-wheels with the vertical shaft, substantially as described. 2nd. In a windmill, the combination of a vertically disposed rotating standard, wind-wheels, a vertical shaft rotating with the standard, a frame pivotally mounted on the standard and carrying the wind-wheels and adapted to turn to carry the wind-wheels in a horizontal position, and gearing connecting the wind-wheels with the shaft, substantially as described. 3rd. In a windmill, the combination of a vertically disposed rotating standard, a vertically movable bracket slidingly mounted thereon, vertical wind-wheels, a vertical shaft rotating with the standard, a horizontally disposed frame carrying the wind-wheel and pivotally mounted on the bracket and adapted to turn to carry the wind-wheel from a vertical to a horizontal position, and gearing connecting the wind-wheel to the shaft, substantially as described. 4th. In a windmill, the combination of a vertically disposed rotating standard, a sliding bracket vertically movable thereon and provided with a horizontal shaft, vertically disposed wheels journalled on the shaft and arranged at opposite sides of the bracket, a horizontally disposed frame mounted on the wheels and turning with them, a vertical shaft rotating with the standard, vertically disposed wind-wheels mounted on the frame and connected with the vertical shaft, and means for operating the first mentioned wheels and for locking them against accidental turning, substantially as described. 5th. In a windmill, the combination of a vertically disposed rotating standard, a sliding bracket vertically movable thereon, vertically disposed adjusting wheels journalled on the bracket and arranged at opposite sides thereof, one of the wheels being provided with peripheral notches, a pawl mounted on the bracket and arranged to engage the notches for securing the wheels in their adjustment, a vertical shaft rotating with the standard, the horizontal frame, vertically disposed wind-wheels mounted on the horizontal frame and connected with the vertical shaft, and the handle for rotating the

adjustable wheels, substantially as described. 6th. In a windmill, the combination of a vertically disposed rotating standard, a vertically adjustable frame slidingly mounted thereon, wind-wheels mounted on the frame, a vertical shaft journalled in suitable bearings of and rotating with the standard, and gearing connecting the wind-wheels together and with the shaft, substantially as described. 7th. In a windmill, the combination of a vertically disposed rotating standard, a horizontal frame mounted on the standard, wind-wheels carried by the frame, a vertical shaft journalled in suitable bearings of the standard, gearing connecting the wind-wheels with the shaft, a pinion secured to and carried by the vertical shaft, a cog-wheel loosely journalled on the standard and meshing with the pinion of the vertical shaft, and gearing for transmitting motion from the cog-wheel, substantially as described. 8th. In a windmill, the combination of a vertically disposed rotating standard, a horizontal frame mounted on the standard, wind-wheels carried by the frame, a vertical shaft journalled in suitable bearings of the standard, gearing connecting the wind-wheels with the shaft, a pinion secured to and carried by the vertical shaft, a cog-wheel loosely journalled on the standard and meshing with the pinion of the vertical shaft, a gear-wheel secured to and rotating with the cog-wheel, a drive shaft, and a pinion mounted on the drive shaft and meshing with the gear-wheel, substantially as described. 9th. In a windmill, the combination of a vertically disposed rotatable standard, a sliding frame mounted on the standard, a wind-wheel mounted on the frame, gearing for transmitting motion from the wind-wheel, and a hoisting rope for raising and lowering the sliding frame, substantially as described. 10th. In a windmill, the combination of a rotating standard polygonal in cross-section, a vertically movable frame slidingly mounted thereon and rotating therewith, a vertically disposed shaft journalled in suitable bearings of the standard and being polygonal in cross-section, a gear-wheel journalled on the frame and having an opening receiving the vertical shaft and conforming to the configuration of the same, a transverse shaft journalled on the frame and carrying a gear-wheel meshing with said gear-wheel, wind-wheels mounted on the frame, gearing for connecting the wind-wheels with the transverse shaft, and means for raising and lowering the sliding frame, substantially as described. 11th. In a windmill, the combination of a rotating standard, a horizontal frame slidingly mounted thereon, and provided with a pulley, wind-wheels mounted on the frame, gearing connected with the wind-wheels for communicating motion therefrom, a pulley arranged at the top of the standard, a windlass arranged at the base of the same, and a hoisting rope having one end secured to the standard at the top thereof and passing under the pulley of the frame and over the pulley of the standard and extending down to and connected with the windlass, substantially as described. 12th. In a windmill, the combination of a rotating standard, a vertical shaft polygonal in cross-section journalled in suitable bearings of the standard and carried by the same, a frame slidingly mounted on the standard, a transverse shaft journalled in suitable bearings of the frame, bevelled gear-wheels 30 and 31 connecting the transverse shaft with the vertical shaft, the gear-wheel 31 having an opening loosely receiving the shaft and adapted to slide thereon with the movement of the frame, a cog-wheel journalled on the standard and rotating independently thereof, a pinion fixed to the vertical shaft and meshing with the cog-wheel, a gear-wheel secured to the cog-wheel, and a drive-shaft carrying a pinion meshing with the last mentioned gear-wheel, substantially as described. 13th. In a windmill, the combination of a rotating standard, a vertical shaft journalled thereon and carried thereby, a horizontal frame slidingly mounted on the standard, a transverse shaft journalled on the frame, bevelled gearing connecting the transverse shaft and the vertical shaft, sprocket-wheels mounted on the transverse shaft, wind-wheels mounted on the frame and provided with sprocket-wheels, sprocket chains connecting the wind-wheels, together and with the transverse shaft and arranged on said sprocket-wheels, and pulleys located above and engaging the upper portions of the sprocket chains which connect the wind-wheels, substantially as described.

No. 47,162. Steam Engine. (*Machine à vapeur.*)

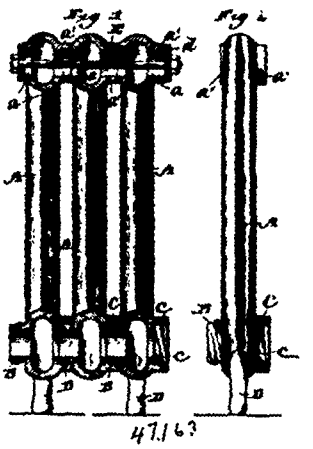


Benjamin Franklyn Sparr, Brooklyn, New York, U.S.A., 4th October, 1894; 6 years.

Claim.—The combination of a steam cylinder having an enlarged section between contracted ends, with a piston having a collar between its ends to engage said enlarged section, and with steam ports leading to the ends of the cylinder and to the ends of the enlarged section, substantially as described.

No. 47,163. Steam and Hot Water Radiators.

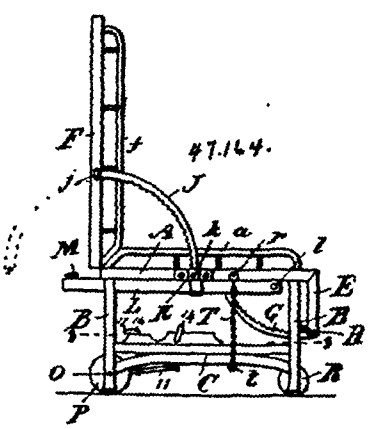
(*Calorifère à vapeur et eau chaude.*)



James D. Young, Duluth, Minnesota, U.S.A., 4th October, 1894; 6 years.

Claim.—1st. A radiator section for steam or hot water formed on one of its faces with an enlarged socket having an internal screw thread of such a pitch that by a quarter turn of said section upon another section it will be brought to a vertical position and be secured to the other section, and said section also formed on its opposite face with a projecting stud or nipple having an external screw thread of similar pitch, whereby, by a quarter turn of said section upon another section it will be brought into a vertical position, and secured to said other section, and be held in such position without the use of other fastening means, substantially as described. 2nd. As an improved article of manufacture, a radiator section for steam or hot water having formed on one of its faces an integral laterally projecting internally screw threaded spacing socket, and having formed on its other face an integral externally screw threaded, laterally projecting spacing nipple or stud, substantially as and for the purpose described.

No. 47,164. Invalid's Chair. (*Chaise d'invalide.*)

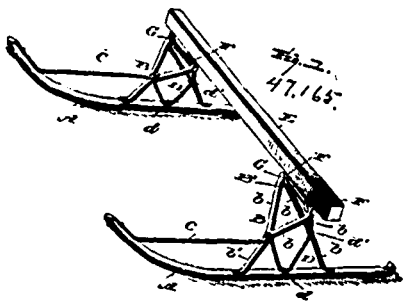


Celia Bélanger, Montreal, Quebec, Canada, 4th October, 1894; 6 years.

Claim.—1st. In an invalid's chair, the combination with the seat having suitable supports of the hinged foot-board E, hinged to the front edge of the said seat, the segmental racks G, pivoted to the said foot-board, the free ends of the racks passing through slots in the front legs of the said seat, means for locking the racks in any position, the back F, hinged to the rear of the said seat, the segmental racks J, hinged to the said back, sockets K, in which the ends of the racks may be secured, the sliding bars L, having slots to receive the segmental racks J, and means for locking the said racks in any position, substantially as set forth. 2nd. In an invalid's chair, the combination with the seat A, supported by legs B, suitably braced by rungs, the foot-board E, hinged to the front edge, of the segmental racks G, pivoted to the lower or front corners of the said foot-board, the free ends of the racks passing through slots in the front legs of the seat, the shaft H, journalled in suitable bear-

ings, the projections *h*, adapted to engage the teeth of the said segmental racks, and the handle I, substantially as set forth. 3rd. In an invalid's chair, the combination with the seat A, supported by legs B, suitably braced by rungs, the back F, hinged to the rear of the said seat, of the segmental racks J, hinged to the said back, the sockets K, pins *k*, the sliding bars L, having slots at their outer ends, the lever M, pivoted to blocks secured on the ends of the said bars L, and the flexible coupling N, connecting the inner ends of the said levers M, substantially as set forth. 4th. In an invalid's chair, the combination with the legs B, supporting the seat of the chair, and the rungs C and D, of the axle of O, journalled in the rear legs of said chair, near their lower ends, the wheels P, secured on the said axle near each end, the pinion 10 secured on the said axle near one of the wheels P, the sliding toothed bars 11 having teeth with square shoulders, the said bars having the square shoulders facing one the front and one the rear, the lever 12 to which the said bars 11 are pivoted, means for reciprocating the said lever, the vertically sliding bars 20, having jaws 21, adapted to slidingly hold the toothed bars 11, and means for raising or lowering either of the bars 20, substantially as set forth. 5th. In an invalid's chair, the combination with a chair having propelling mechanism adapted to operate the rear wheels of the front wheels R, journalled on an axle Q, pivoted by a bolt *q*, to the front rung of the said chair, the arm *s*, secured to the axle Q, a spring *s*, secured to the free end of the arm S, and one of the side rungs of the chair, the chain or cord T, passing over a pulley *t*, and a pin *r*, to which the said cord or chain T may be secured, substantially as set forth. 6th. In an invalid's chair, the combination with the seat of the chair having an opening cut therein, and a cover adapted to close the said opening, of the sliding board 23, having an opening 25 cut therein, a rebate formed around the edge of the said opening 25, and grooves 24 formed under the said seat, substantially as set forth.

No. 47,165. Bobsleigh. (*Traîneau jumeau.*)



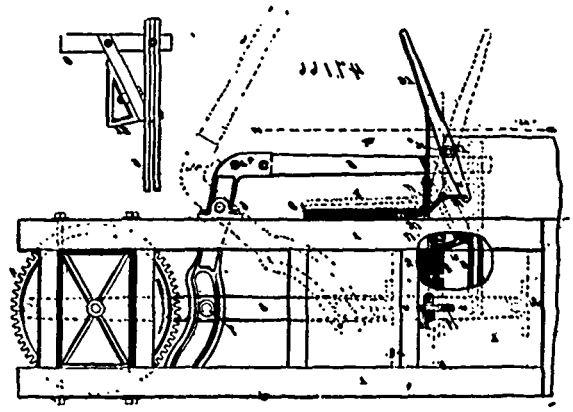
Henry L. Eastman, assignee of Soren C. Paulson, both of Wapeton, North Dakota, U.S.A., 4th October, 1894; 6 years.

Claim.—1st. A knee for a sleigh, comprising a transverse horizontal round portion with integral convergent arms extending in opposite directions therefrom, and merging into a single arm on each side, and a substantially U-shaped brace secured to the said arms and adapted for connection with a runner, substantially as specified. 2nd. The combination, with a bolster, of runners mounted for independent oscillatory movement and each mounting comprising inclined arms uniting at their upper ends in a horizontal transverse portion, a substantially U-shaped brace between said arms, and a brace connecting the front end of the runner with the foremost of said arms, substantially as specified. 3rd. The combination, with a bolster and a runner, of a knee having a horizontal portion parallel with the bolster, and pivotally held to the under side thereof, and inclined integral convergent arms secured to the runner and extending in opposite directions from said horizontal portion, a brace between said arms and secured to the runner, a brace connecting one of the arms with the front end of the runner, a wear plate between the under face of the bolster and the horizontal portion of the knee, and clips securing the said horizontal portion and wear plate to the bolster, substantially as specified.

No. 47,166. Baling Press. (*Presse d'emballage.*)

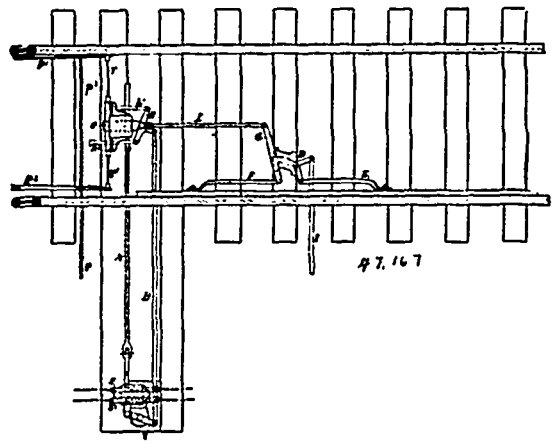
The Collins Plough Company, assignee of John W. Brown, and Albert A. Gehrt, all of Quincy, Illinois, U.S.A., 4th October, 1894; 6 years.

Claim.—1st. In a baling press, the guides 17 for directing the division boards into the press, in combination with a support pivoted adjacent to said guides for lifting said boards into a vertical position, substantially as set forth. 2nd. In a baling press, the combination of a support for the division boards, a crank shaft to which the support is secured, and a lever connected to the crank shaft for moving the support and division board to a vertical position, to permit the division board to drop by gravity into the press chamber, substantially as set forth. 3rd. In a baling press, the combination of a support, for the division boards, means for moving the support into a vertical position, and spring actuated dogs 19 for holding the division boards in an upright position in the baling chamber, substantially as set forth. 4th. The combination in a baling press of the baling box, having an opening for the admission of the division boards, with the retaining dogs 19 having bevelled portions 19^a, and supported in walls of the baling box, and adapted to hold the division boards in an upright position while they were being inserted,



substantially as and for the purposes set forth. 5th. In a baling press, the combination of a support for the division boards, means for moving the support into a vertical position, guides 17 for directing the division board into the baling chamber, and spring-actuated dogs 19 for holding the division board in an upright position in the baling chamber, substantially as set forth. 6th. In a baling press, the combination of the baling box the vertical guides 17, which hold the division boards upright against horizontal or lateral movement when passed by the feeder, and the feeder having a bracket or projection 21 for engaging the division boards, substantially as and for the purposes set forth. 7th. In a baling press, the combination of the support for the division boards, means for moving the support into a vertical position, guides 17 for insuring the vertical descent of the division boards, and a feeder having a projection or bracket 21, substantially as and for the purpose set forth.

No. 47,167. Lock for Railway Switch Gear.
(*Serrure pour engrenage d'aiguilles de chemin de fer.*)

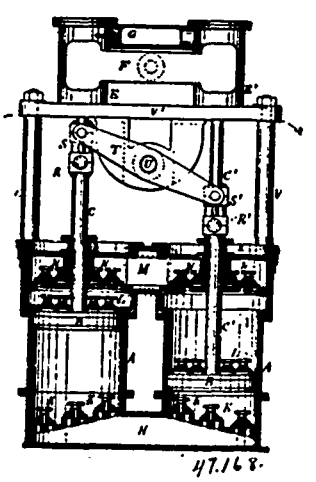


The Canada Switch Manufacturing Company, Montreal, Quebec, Canada, assignee of Charles Hodgson, Kilburn, County of London, England, 4th October, 1894; 6 years.

Claim.—1st. In railway switch-gear, the combination with the operating rod, of a locking bar connected therewith and operated thereby, a locking bolt for locking the rail points connected with and operated by said bar, and a signal detector for the signal bars connected with and operated by the locking bolt. 2nd. In railway switch-gear, the combination with the operating rod, of a locking bolt for locking the rail points in their proper position, which is operated by said rod, a signal detector for the signals operated by said bolt, and means for preventing the unlocking of the points by the locking bolt if the signal detector fails to work properly. 3rd. In railway switch-gear, the combination with the operating rod, of a locking bolt operated thereby, a tie rod T connecting the two rail points and crossing the path of the locking bolt, the rod being divided into two portions with overlapping ends through which are the passages T^1, T^2 for the bolt, the passages being so located that one of them is in the path of the bolt when the points are at one side of the track and the other is in its path when the points are thrown to the opposite side of the track. 4th. In railway switch-gear, the combination with the signal bars S, S^1 which have the projecting ribs *r*, r^1, of a rod A crossing the signal bars in the path of the ribs

and operated by the locking bolt which locks the switch points, passages R, R^1 in the rod A adapted to allow one of the ribs to pass when the rod is in a pre-determined position and another rib to pass when the rod is in another pre-determined position, and means for preventing the unlocking of the points by the locking bolt if the rod A fails to work properly, said means being operated by the rod A. 5th. In railway switch-gear, the combination with the operating rod, of a locking bolt operated thereby upon which is a pivoted lever H whose ends are connected with sliding rods h^1, h^2, a tie rod T connected with the rail points and crossing the path of the locking bolt and the rods h^1, h^2, passages t, t^1 in the tie rod for the rods h^1, h^2 respectively, and passages T^1, T^2 in the tie rod for the locking bolt, all the said passages being located in the tie rod, as described. 6th. In railway switch-gear, the combination with the operating rod, of a locking bolt connected therewith upon which is a pivoted lever H whose ends are connected with the rods h^1, h^2 which slide in the guides V^1, projections on the ends of the rods, which engage with the guides, a tie rod connecting the rail points and crossing the path of the locking bolt and the rods h^1, h^2, passages t, t^1 in the tie rod for the rod h^1, h^2 respectively, and passages T^1, T^2 in the tie rod for the locking bolt, all the said passages being located in the rod, as described. 7th. In railway switch-gear, the combination with the operating rod, of a locking bolt connected therewith upon which is a three arm crank, one arm being connected with the signal detector which is operated thereby and the other two arms being connected with the rod h^1, h^2, a tie rod T connecting the rail points and crossing the path of the locking bolt and the rods h^1, h^2, the said tie rod having passages t, t^1 for the rods h^1, h^2 respectively and passages T^1, T^2 for the locking bolt, all the passages being located in the rod as described, and means, operated by the signal detector, for preventing the unlocking of the points by the locking bolt, if the said signal detector fails to work properly. 8th. In railway switch-gear, the combination with the operating rod, of a locking bolt for locking the rail points, which is operated by the said rod, a tie rod T connected with the rail points and crossing the path of the locking bolt, passages T^1, T^2 for the locking bolt in the tie rod, the passages being so located that one of them is in the path of the bolt when the rail points are at one side of the track and the other is in the path of the bolt when the points are at the other side of the track, a signal detector for signals operated by the locking bolt, and means for preventing the withdrawal of the locking bolt from the passage in the tie rod in which it has entered, if the signal detector fails to work properly, said means consisting of the three arm crank K located between and in the path of the projections C^1, C^2 on the locking bolt, the said crank being operated by the signal detector. 9th. In railway switch-gear, the combination with the operating rod, of a locking bolt connected therewith upon which is mounted a three arm crank, one arm of which is connected with the rod A which operates the detector device for the signal bars and whose other two arms are connected with the rods h^1, h^2, a tie rod T connected with the points and crossing the path of the locking bolt and the rods h^1, h^2, the said rod T having the passages t, t^1 for the rods h^1, h^2 respectively, and the passages T^1, T^2 for the locking bolt, all the passages being located in the rod as described, and means for preventing the locking bolt from moving if the rod A does not move properly, said means consisting of the three arm crank K located between and in the path of the projections C^1, C^2 on the locking bolt, the said crank having step pieces on its arms and being operated by the rod A.

No. 47,168. Pumping Engine. (*Machine d'épuisement.*)

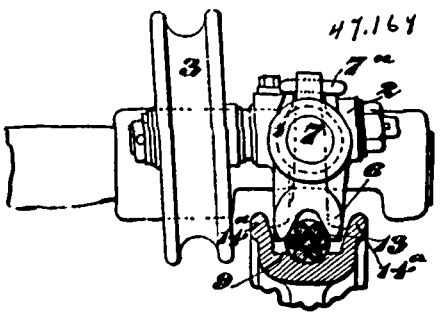


Frederick M. Wheeler, Montclair, New Jersey, U.S.A., 4th October, 1894; 6 years.

Claim.—1st. The combination with two vertical pump cylinders and their lifting buckets and valves, of a frame and means for supporting the same above the pump cylinders, steam engine cylinders, pistons and piston rods in line with and connected to the rods of the buckets, a walking-beam between the pump cylinders and the bed of the engine, a pivot for the walking-beam supported by the engine bed, and link connections at the respective ends of the walking-beam to the cross-heads of the piston rods for unifying the action of the engine directly upon the lifting buckets, substantially as set forth. 2nd. The combination in a vacuum pump, of vertical cylinders, buckets and valves, steam engine cylinders, pistons and piston rods in line with and connected directly to the rods of the pump buckets, connections extending from the pump cylinders to the steam cylinders and supporting the latter, a walking-beam and its pivot supported between the steam cylinders and the pump cylinders, and links connecting the ends of the walking-beam the cross-heads of the engine and pump rods, substantially as set forth.

No. 47,169. Apparatus for Transporting Loads.

(*Appareil pour transporter les charges.*)



John P. Roe, London, England, 4th October, 1894; 6 years.

Claim.—1st. In that kind of apparatus for transporting loads by means of a travelling rope in which one or more grooved or recessed detachable blocks are employed to rest upon or engage with the travelling rope, the construction of the groove in such block or in each of such blocks, with one or more projections or recesses adapted to engage in the manner set forth with the helically arranged strands of a travelling rope. 2nd. A block of the kind referred to in the preceding claim, made as in Figs. 1 to 5 inclusive with a projection located at one side of the groove, or with projections located at both sides of the groove, or with a projection extending from one side of the groove to the other, as set forth. 3rd. In an apparatus for use on a travelling rope for transporting loads, a grooved or recessed block or blocks constructed to grip or take upon, or engage with the travelling rope, and connected or applied to the frame or backbone of the apparatus in such a manner as to be able to automatically adjust itself or themselves to any upward or downward curvature of the rope in the manner hereinbefore described with reference to the arrangements illustrated in Figs. 1 to 5 inclusive, and in Fig. 8. 4th. For transporting loads by means of a travelling rope, apparatus constructed, arranged and operating as heremebefore described, with reference respectively to and illustrated in Figs. 1 to 7 inclusive, and in Figure 8, or modified as set forth, whether or not the grooves or recesses in the gripping blocks be provided with one or more projections such as 13, or be lined with material such as leather or soft metal, and also whether or not the gripping blocks be arranged to turn and adjust themselves. 5th. In apparatus for transporting loads by means of a travelling rope, the combination of a frame or backbone having a hanger bearing with a hanger having a flat upper end to work in said bearing and formed with a recess, said hanger bearing being of triangular form, or approximately so, and formed with a projection to enter the recess in said hanger, substantially as herein described, for the purpose specified. 6th. Apparatus for transporting loads by means of a travelling rope, comprising a frame provided with movable clips the jaws of which are caused to press on opposite sides of the travelling rope by the action of the load carried in such a manner that the tightness of the grip will be proportional to the weight of such load, substantially as described. 7th. Automatic clip apparatus of the kind referred to in the preceding claim, constructed, arranged and operating, substantially as hereinbefore described, with reference respectively to and shown in Fig. 10, in Fig. 11 and in Fig. 12 of the drawings. 8th. In apparatus for transporting loads by means of a travelling rope, two or more rope supporting sheaves arranged tandem-wise and supported by one or more balance or compensating beams or levers, substantially as hereinbefore described, for the purposes set forth. 9th. In apparatus for transporting loads by means of a travelling rope, a sheave having a dished centre so arranged as to bring the sheave bearing under the rope, substantially as described.

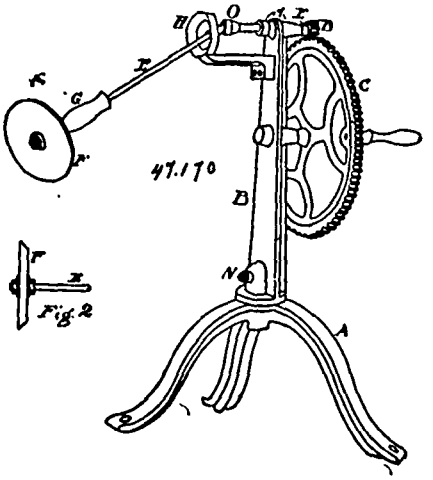
No. 47,170. Horse-shoe Caulk Sharpener.

(*Appareil pour aiguiser les crampons de fer à cheval.*)

William J. Temple, Hampden, Maine, U.S.A., 4th October, 1894; 6 years.

Claim.—1st. A horse-shoe caulk sharpener consisting of the combination of a standard swivelled in a base, a gear-wheel arboured in said standard meshing with a pinion carrying a shaft arboured

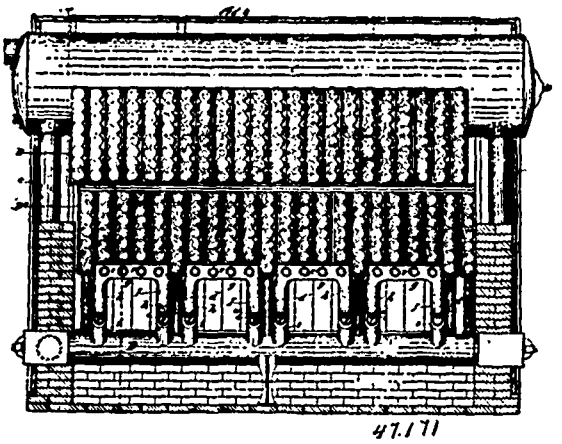
horizontally in said standard and projecting through the same, said shaft having a universal joint in the length of said projection, a hollow cylindrical handle upon said shaft formed to permit the



revolution of said shaft within said handle, and a grinding-wheel attached to the outer end of said projection and turning with said shaft. 2nd. A universal joint consisting of the combination of a ball having a diametrical bore flaring outwardly from the centre toward each end in two convex curves at right angles to the axial movement of the ball upon the axial shaft, a hemispherical cup or socket fitted to receive said ball and having two bearings in its rim opposite each other fitted to receive an axial shaft, and axial shaft mounted in said bearings and carrying said ball.

No. 47,171. Sectional Steam Boiler.

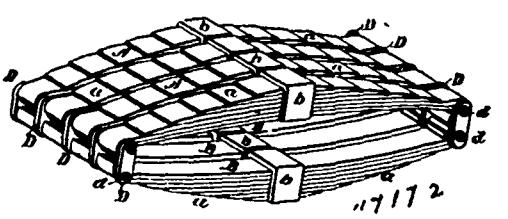
(*Calorifère à eau.*)



Amasa Worthington, Brooklyn, New York, U.S.A., 4th October, 1894; 6 years.

Claim.—1st. In a sectional steam boiler, the combination, with a plurality of series of oppositely inclined water tubes, a steam and water drum, and a water drum, both of which drums are extended longitudinally of such boiler, of a water arch interposed between and connecting one of such series of water tubes with the water drum, whereby to form a door or a stoke-hole, with the water arch extended above and the water drum below the same, and a fire-box or furnace below such water tubes, substantially as described. 2nd. In a sectional steam boiler, the combination with a plurality of series of inclined water tubes, a steam and water drum, and a plurality of water drums extended longitudinally of the boiler, of a water arch for connecting one of the series of water tubes with one of the water drums, whereby to form a door or stoke-hole with the water arch extended above and the water drum extended below the same, means for connecting the other series of water tubes with the other water drum, and for connecting both series of water tubes with the steam and water drum, and a fire-box or furnace located below the water tubes, substantially as described. 3rd. In a sectional steam boiler, the combination, with a plurality of series of oppositely inclined water tubes, a steam and water drum, a plurality of water drums extended longitudinally of the boiler, and tubes for independently connecting the steam and water drum with the water drums and for connecting such water drums, of a water arch for connecting one of the series of water tubes to one of the water drums, whereby to form a door or stoke-hole with the water arch extended above and the water drum extended below the same, tubes and headers for connecting the other series of water tubes with the other series of water drums and for connecting both series of water tubes with the steam and water drum, and a fire-box or furnace located below the water tubes, substantially as described,

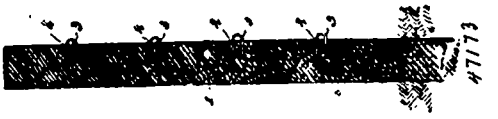
No. 47,172. Elliptic Spring. (*Ressort elliptique.*)



William H. Hansell, Philadelphia, Pennsylvania, U.S.A., 4th October, 1894; 6 years.

Claim.—1st. An elliptic spring composed of upper and lower halves, provided with separating devices at the ends, said upper and lower halves locked to such separating devices, whereby longitudinal movement of one half of the spring in respect to the other half is prevented, substantially as described. 2nd. The combination of the upper and lower halves of an elliptic spring, with spacing plates at the ends of the spring, independent connections between said spacing plates and the two halves of the spring, and means for locking one of the leaves of each half of the spring to its corresponding connection, substantially as specified. 3rd. The combination of the upper and lower halves of the spring, with the spacing plates having projecting bearing studs with pockets on their inner sides, a leaf of each half of the spring being coiled around its bearing stud and having a hooked end adapted to the pocket in said stud, substantially as specified.

No. 47,173. Fence Post. (*Pieu de clôture.*)

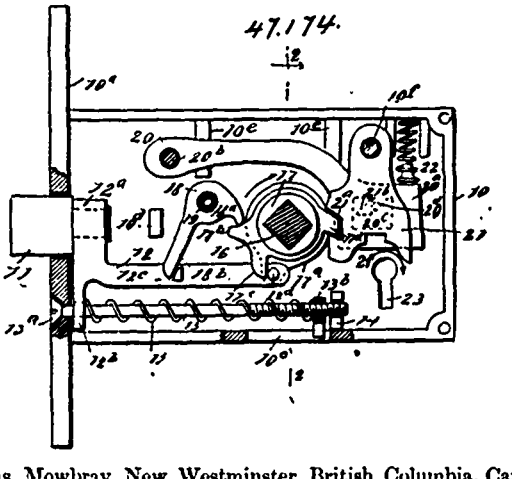


Ulysses G. Thompson and Charles Wain, both of Oneida Mills, Ohio, U.S.A., 5th October, 1894; 6 years.

Claim.—A solid earthen fence post, or the like, provided with a vertical series of sockets, arranged in pairs and diverging inward and curving upward and downward, whereby staples are adapted to be driven in the post for securing fence wires thereto and are automatically clinched, substantially as described.

No. 47,174. Door Latches and Locks.

(*Loquet et serrure de porte.*)



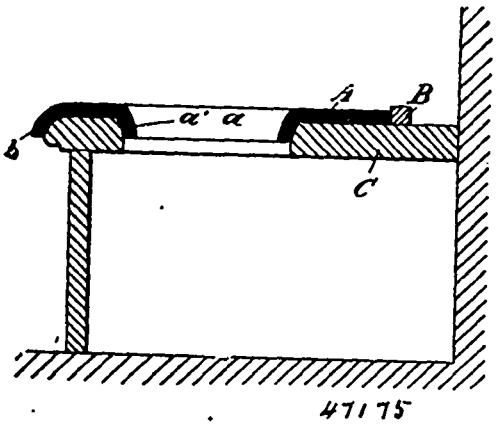
Thomas Mowbray, New Westminster, British Columbia, Canada, 5th October, 1894; 6 years.

Claim.—1st. The combination with a case, a spring-pressed latch bolt and a transverse rocking spindle in the case, of mechanism adjustable by a key, and adapted to lock or release the spindle, substantially as described. 2nd. The combination with a case, a sliding latch bolt therein, spring-pressed outwardly, and a transverse spindle arranged to retract the bolt when rocked, of a spring-pressed pivoted lever, and a pendant tumbler block adapted to hold the spindle until released by a key, substantially as described. 3rd. The combination with a case, a sliding latch bolt therein, spring-pressed outwardly,

and a transverse spindle arranged to retract the latch bolt when rocked, of a forwardly pivoted detent lever to press it downwardly, a tumbler block pivoted to hang at the side of the lever, and having an angular toe that enters the aperture of the lever and engages a tooth on the top edge of said aperture, and a sleeve rotatable with the spindle and having a tongue that interlocks with a notch in the front edge of the pendant tumbler block, substantially as described. 4th. The combination with a case, a sliding latch bolt therein, and a rocking spindle adapted to slide the bolt, of a spring adjustable for tension and engaging the bolt to press it outwardly, substantially as described. 5th. The combination with a case, a sliding latch bolt therein, a rocking spindle actuating the bolt, and mechanism releasable by a key and adapted to lock the spindle, of a spring pressing the latch bolt outwardly, and means for regulating the tension of said spring from the exterior of the case, substantially as described. 6th. The combination with a case, a sliding latch bolt therein, and a transverse spindle connected to the bolt and moving it when the spindle is rocked, of a rotatable spring-carrying rod adjustable from the exterior of the case, a travelling nut on a threaded part of the rod, and a spiral spring on the carrier rod, pressing the nut and a depending part of the latch bolt, substantially as described.

No. 47,175. Antiseptic Covering for Closets.

(*Couvercle antiseptique pour latrines.*)

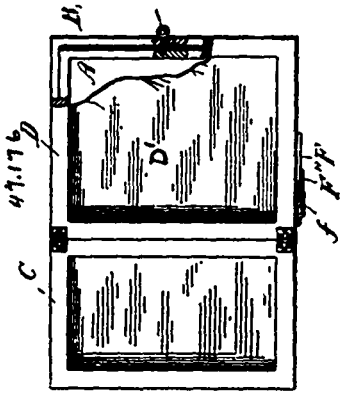


Karl Hoefelmayr, Munich, Bavaria, Germany, 5th October, 1894; 6 years.

Claim.—1st. A closet seat cover consisting of a block formed of sheets or layers of paper or tissue covering a part of the closet seat, and provided with a central perforation smaller than the perforation in the seat, and the edge of said perforation bent down over the edge of the perforation in the seat, and the front edge of said block bent over and around the front edge of the closet seat, substantially as set forth. 2nd. A closet seat cover consisting of a block formed of sheets or layers of waterproof paper or tissue having undergone antiseptic treatment, and provided with a perforation corresponding to the perforation in the closet seat, substantially as set forth.

No. 47,176. Hinged Receptacle Cover.

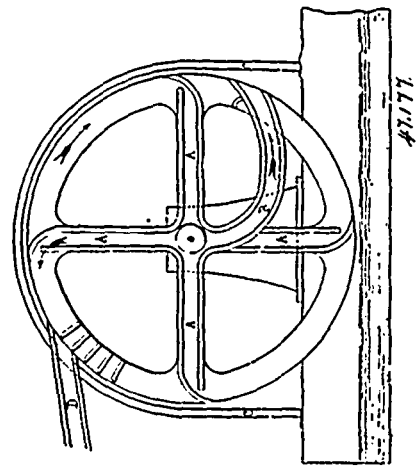
(*Couvercle de réceptacle à penture.*)



Edmund B. Nagle, Florence P. McGovern, Edward Cushing, and Louis N. Poulin, all of Ottawa, Ontario, Canada, 5th October, 1894; 6 years.

Claim.—1st. In a receptacle cover, the combination of a casing adapted to pass over the top of the receptacle to be covered and be held thereon, a fixed top covering the rear part of said casing, a top consisting of a panelled frame covering the front part of said casing and hinged to the front edge of the fixed rear portion, a concealed spring catch in the joint between the hinged top and the casing, a holder secured to the side of said cover, and connecting hinged top and casing, and adapted to hold said top open at an angle, and means of securing said casing to the receptacle to be covered, substantially as set forth. 2nd. In a receptacle cover, the combination of a casing B, adapted to pass over the top of the receptacle to be covered and to be held thereon, a screw eye G, passing through said casing and connecting said receptacle, a panelled frame C, permanently secured to the top of the rear portion of said casing, a panelled frame or top D, hinged to said top C, and means for keeping said hinged top closed, substantially as set forth. 3rd. In a receptacle cover, the combination of a casing adapted to surround the top of the receptacle, a top hinged to said casing, a series of incissions in the front of said casing giving it the appearance of a series of separate blocks, one portion between two of said incisions made loose, a plate spring bent at a right angle, and having its horizontal shank perforated to receive a stud and secured to said loose block, and its vertical shank secured to the rear of said frame, and a notched stud secured to the hinged top and adapted to enter the perforation in said spring, substantially as set forth. 4th. The combination with a fixed frame, and a frame or top hinged to it, of a wire hoop F, having an eye at one end by which it is pivoted to one of the parts hinged together, and having one shank straight or curved and the other bent into a series of curves alternately approaching to and receeding from the other shank, so as to form a series of rounded shoulders or rests and intermediate passages for a pin, and a pin F', secured to the other hinged part, and adapted to operate within said loop, substantially as set forth.

No. 47,177. Method of Utilizing the Exhaust from Engines. (*Méthode d'utiliser l'émission de la vapeur des machines.*)



Jean Marie Saland, Port St. Père, France, 5th September, 1894; 6 years.

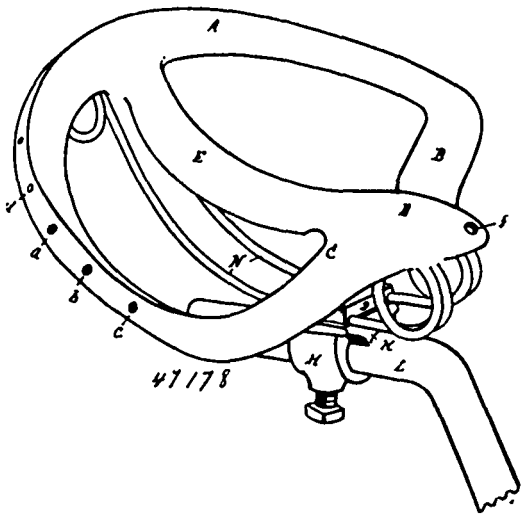
Claim.—1st. The utilization of the exhaust from steam, gas or other engines by conducting the same to a wheel and causing the same to impinge against obstacles thereon whereby the wheel is rotated substantially as described. 2nd. For utilizing the exhaust from steam, gas or other engines, an apparatus consisting of a wheel having a hollow nave or hub and hollow radial, curved arms or ways communicating with said hollow nave or hub and a conduit opening in said hollow nave or hub, substantially as described. 3rd. For utilizing the exhaust from steam, gas or other engines, an apparatus consisting of a wheel having circumferential ribs or floats and a conduit opening on said ribs or floats, substantially as described.

No. 47,178. Bicycle Seat. (*Siège de bicycle.*)

George Harden and Thomas A. Dewar, both of Detroit, Michigan, U.S.A., 5th October, 1894; 6 years.

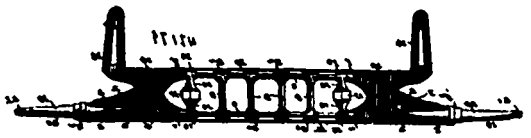
Claim.—1st. A bicycle seat made with a semi-circular, rear support, a front pommel, and with radial branches extending from the pommel to the semi-circular support at its middle part and at its ends, substantially as described. 2nd. A bicycle seat having a semi-circular rear support, a front pommel, radial branches extending from the pommel to the semi-circular support at its middle part and at its ends, and a seat cover secured to the semi-circular support, and the pommel, substantially as described. 3rd. In combination with a bicycle seat having a semi-circular rear support, a front pommel, radial branches extending from the pommel to the support, the said radial branches bending downward between the pommel and the support, substantially as described. 4th. A

bicycle seat, made with a semi-circular rear support, a front pommel with radial branches extending from the pommel to the



support at its middle part, and at its ends combined with a spring support, and means for adjusting the inclination of the seat with reference to the seat post, substantially as described.

No. 47,179. Axle. (*Essieu*)



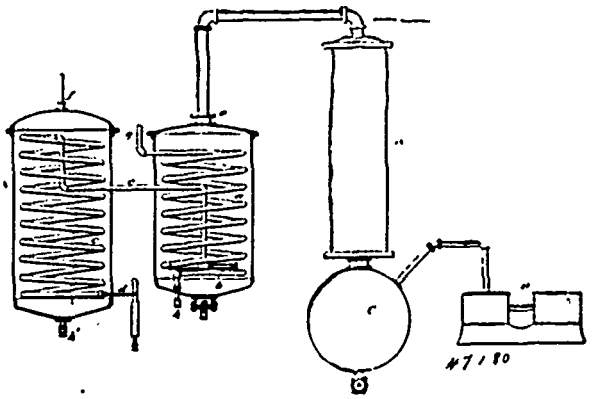
James Miller and Frank H. Boucher, both of Orlando, Florida, U.S.A., 5th October, 1894; 6 years.

Claim.—1st. The combination with an axle having its opposite ends provided with tapered bores terminating in threaded sockets, of opposite spindles tapered at each side of their centres and terminating at each end is a threaded tenon for engaging the sockets and fitting the bores, the spindle being thereby made reversible, substantially as described. 2nd. In an axle, the combination with the opposite metal ends provided at their inner ends with oppositely threaded sockets, reversely threaded continuous intermediate rods engaging the threads of the sockets, and the vertical strut rods connecting the intermediate rods, substantially as described. 3rd. In an axle, the combination with the opposite metal ends having upper and lower flanges, intermediate webs and bored vertical ribs, of spindles at the outer ends of the castings, upper and lower tie-strips embracing the axle, and fastening devices passed through the strips and the bored ribs, substantially as described. 4th. In an axle, the combination with the opposite metal ends provided at their inner ends with oppositely threaded sockets, the intermediate rods provided with threaded ends fitting in the sockets, vertical rods or struts provided at their ends with heads having sockets receiving the intermediate rods and spindles, substantially as described. 5th. In an axle, the combination of the metal ends provided with vertical bores, intermediate rods connecting the ends, standards provided with horizontal arms having bores registering with those of the ends, and fastening devices extending through said bores, and securing the standards to the ends, substantially as described. 6th. In an axle, the combination of the ends, intermediate rods connecting the ends, and plates provided with sockets to receive the intermediate rods and having opposed faces adapted to bear against and be secured to hounds, substantially as described. 7th. In an axle, the combination of the ends, intermediate rods connecting the ends and located at the top and bottom thereof, vertical rods or struts provided at their ends with openings or sockets receiving the intermediate rods, and the plates 16, extending inward from the intermediate rods and provided with sockets receiving the same, said plates being adapted to be secured to the upper and lower faces of hounds, substantially as described.

No. 47,180. Process of and Apparatus for Distilling Glycerine. (*Procédé et appareil pour distiller la glycérine.*)

Joseph Van Ruymbeke and William F. Jobbins, both of Chicago, Illinois, U.S.A., 5th October, 1894; 6 years.

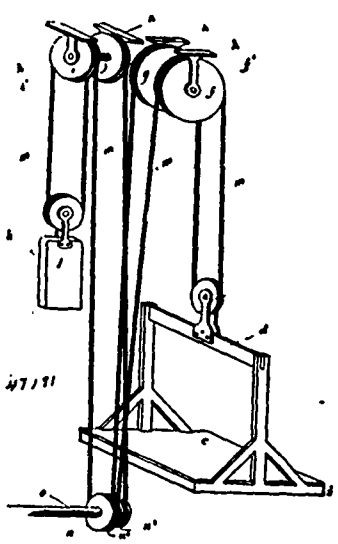
Claim.—1st. In the art of distilling glycerine or similar liquids, the improvement which consists in ejecting expanded and reheated steam into the liquid maintained at distilling temperature, as and for the purpose described. 2nd. In the art of distilling glycerine or similar liquids, the improvement which consists in heating the liquid by independent means, and in ejecting expanded and reheated steam into the independently heated liquid maintained at distilling



temperature, as and for the purpose described. 3rd. In the art of distilling glycerine or similar liquids, the improvement which consists in maintaining the liquids to be distilled, at a high vacuum, and in injecting expanded and reheated steam into the liquid, maintained at distilling temperature, as and for the purpose described. 4th. In the art of distilling glycerine or similar liquids, the improvement which consists in maintaining the liquid to be distilled at a high vacuum, in independently heating the liquid, and in injecting expanded and reheated steam into the independently heated liquid maintained at distilling temperature, as and for the purpose described. 5th. In the art of distilling glycerine or similar liquids, the improvement which consists in maintaining the liquid to be distilled at a high vacuum, heating the liquid by means of confined steam, and in injecting expanded and reheated steam into the heated liquid, maintained at distilling temperature, as and for the purpose described. 6th. In the art of distilling glycerine or similar liquids, the improvement which consists in maintaining the liquid to be distilled at a high vacuum, in heating the liquid by means of confined steam, in expanding free steam before entering the still, in reheating such expanded steam by such confined steam so as to compensate for reduction of temperature caused by the expansion, and in injecting the expanded and reheated steam into the heated liquid maintained at distilling temperature, as and for the purpose described. 7th. A distilling apparatus, consisting of a still, an expansion coil, a heating cylinder for the expansion coil, and a perforated delivery pipe in the still and connected with the expansion coil, substantially as described. 8th. A distilling apparatus, consisting of a still, a vacuum pump connected with the still, an expansion coil, a heating cylinder for the expansion coil, and a perforated delivery pipe in the still and connected with expansion coil, substantially as described. 9th. A distilling apparatus, consisting of a still, a heating coil in the still, an expansion coil, a heating cylinder for the expansion coil, and a perforated delivery pipe in the still and connected with the expansion coil, substantially as described. 10th. A distilling apparatus, consisting of a still, a vacuum pump connected therewith, a heating coil for heating the contents of the still, an expansion coil connected with the still and with a source of steam supply, and a reheater for reheating the expansion coil, substantially as described. 11th. A distilling apparatus, consisting of a still, a vacuum pump connected therewith, means for heating the contents of the still, an expansion coil connected with the still and with a boiler, and a reheater for heating the expansion coil, substantially as described. 12th. A distilling apparatus, consisting of a still, a vacuum pump connected therewith, a heating cylinder, an expansion coil in said heating cylinder and connected with the still, and source of supply for steam in the said heating cylinder and expansion coil, substantially as described. 13th. A distilling apparatus, consisting of a still, a vacuum pump connected therewith, a heating cylinder adjacent to the still, and connected with a source of steam supply, a heating coil within the still, and an expansion coil in said heating cylinder and connected with the still, substantially as described. 14th. A distilling apparatus, consisting of a still, a vacuum pump connected therewith, a heating cylinder adjacent to the still and connected with a source of steam supply, a heating coil within the still, connected with the same source of steam supply, a distributing pipe within the still, and an expansion coil within said heating cylinder and connected with said distributing pipe, substantially as described. 15th. A distilling apparatus, consisting of a still, a vacuum pump connected therewith, a heating cylinder adjacent to the still, connected with a source of steam supply, a heating coil within the still, connected with the same source of steam supply, and an expansion coil within said heating cylinder, connected with the still and supplied with steam from the same source of steam supply, substantially as described. 16th. In a distilling apparatus, the combination of the standards F, the braces G and H, bolted to the upper end of the same, the still A, and heating cylinder E, supported by said braces, the steam coil *a*, within said still, and the expansion coil *c* within said heating cylinder, substantially as described. 17th. In a distilling apparatus, the combination of the

standards F, the braces G and H, bolted to the upper end of the same, the still A, and heating cylinder E, supported by said braces, the steam coil *a* within said still, the expansion coil *c* within said heating cylinder, and a common source of steam supply for said steam coil, expansion coil and heating cylinder, substantially as described. 18th. In the art of recovering glycerine from the residuum of glycerine distillation, the improvement which consists in adding to the residuum a mineral acid in sufficient quantity to liberate the organic acids and subsequently volatilizing the volatile organic acid set free, as and for the purpose described. 19th. In the art of recovering glycerine from the residuum of glycerine distillation, the improvement which consists in adding to the residuum a mineral acid in sufficient quantity to liberate the organic acids, separating the precipitate formed, and then volatilizing the volatile organic acids, as and for the purpose described. 20th. In the art of recovering glycerine from the residuum of glycerine distillation, the improvement which consists in adding to the residuum a mineral acid in sufficient quantity to liberate the organic acids contained therein, said mineral acid being dissolved in purified spent soap lye, separating the precipitate formed, volatilizing the organic acids, and then distilling the purified residuum, as and for the purpose described. 21st. In the art of recovering glycerine from the residuum of glycerine distillation, the improvement which consists in adding to the residuum sulphuric acid in sufficient quantity to liberate the organic acids and subsequently volatilizing the volatile organic acid set free, as and for the purpose described. 22nd. In the art of recovering glycerine from the residuum of glycerine distillation, the improvement which consists in adding to the residuum sulphuric acid, in sufficient quantity to liberate the organic acids, separating the precipitate formed and then volatilizing the volatile organic acids, as and for the purpose described. 23rd. In the art of recovering glycerine from the residuum of glycerine distillation, the improvement which consists in adding to the residuum sulphuric acid in sufficient quantity to liberate the organic acids contained therein, said sulphuric acid being dissolved in purified spent soap lye, separating the precipitate formed, volatilizing the organic acids and then distilling the purified residuum, as and for the purpose described. 24th. In the art of recovering glycerine from the residuum of glycerine distillation, the improvement which consists in adding to the material treated, a mineral acid in sufficient quantity to set free the organic acids therein contained, separating the precipitate formed, distilling off and collecting the volatile acids set free, and then distilling the purified residuum, as and for the purpose described.

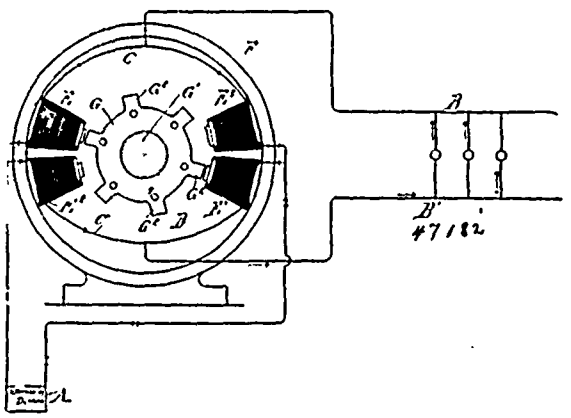
No. 47,181. Elevator. (*Elévateur.*)



Ethelbert M. Fraser, and William Georgeson, both of Winnipeg, Manitoba, 5th October, 1894; 6 years.

Claim.—1st. In an elevator, the combination of the platform or cage *c*, frame *d*, pulley *e*, secured thereto, the wheels *f* and *g*, working loosely on the axle f^1, suitably supported, the loose wheels *i* and *j*, revolving on the axle i^1, also suitably supported, the wheels *k*, attached to weight *l*, endless cable *m*, *m*, one or more in number, drum *n*, having the differential peripheries n^1, n^2, secured to the motor or power axle *o*, substantially as and for the purpose set forth. 2nd. In an elevator, the combination of the platform or cage *c*, frame *d*, pulley *e* secured thereto, the drum *n*, having the differential peripheries n^1, n^2, secured to the axle *o*, which carries the driving wheel *q*, the axle *o*, being suitably supported, the loose wheels *i* and *j*, revolving on the axle i^1, also suitably supported, the weight pulley *k*, secured to weight *l*, endless cable *m*, *m*, one or more in number, and the hand rope *r*, substantially as and for the purpose set forth.

No. 47,182. Current Director. (*Directeur de courant*)

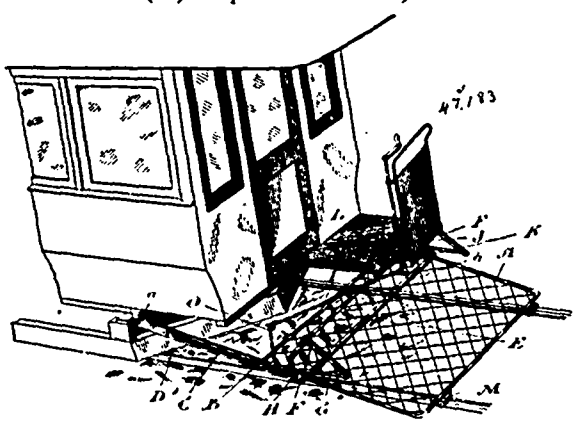


The Consolidated Car Heating Company, assignee of James F. McElroy, both of Albany, New York, U.S.A., 5th October, 1894; 6 years.

Claim.—1st. The method of obtaining a direct from an alternating current which consists in connecting the two main conductors to both poles of the alternating generator by branch conductors, and producing alternately in the two branch conductors of each main conductor, resistance synchronous with the current impulses of the generator, substantially as described. 2nd. The method of obtaining a direct from an alternating current which consists in connecting the two main conductors to both poles of the alternating generator by branch conductors, in placing in each of these branch conductors an electro-magnet and producing magnetic resistance in these magnets, synchronous with the current phases of the generator and alternating in the magnets of each branch conductor, substantially as described.

No. 47,183. Guard for Street Cars.

(*Défense pour chars de rue.*)



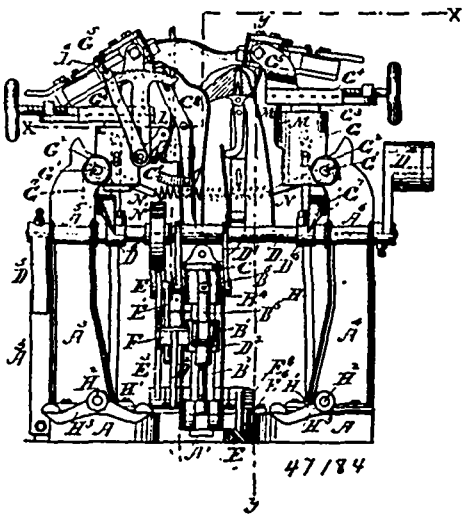
Joseph B. Reed, Toronto, Ontario, Canada, 5th October, 1894; 6 years.

Claim.—1st. A guard for street cars having the inner end adapted to slide in a guide or guides supported by the car in combination with a shaft suitably journalled and having an arm or arms connected thereto and to the guard, substantially as described and for the purpose specified. 2nd. A guard for street cars having the inner end adapted to slide in a guide or guides supported by the car in combination with a shaft suitably journalled and having an arm or arms connected thereto and to the guard, means such as a chain being provided to draw the guard upward and backward, substantially as described and for the purpose specified. 3rd. A guard for street cars having the inner end adapted to slide in guides formed in a frame pivoted to the car in combination with a shaft suitably journalled and having arms rigidly connected thereto, which arms are connected by pitmans to the said guard and frame respectively, substantially as described and for the purpose specified. 4th. A guard for street cars having the inner end adapted to slide in guides formed in a frame pivoted to the car in combination with a shaft suitably journalled and having arms rigidly connected thereto, which arms are connected by pitmans to the said guard and frame respectively, means being provided such as a chain to draw the frame upward, substantially as described and for the purpose specified. 5th. The guard A, sliding on the pivoted frame D, in combination with the suitably journalled shaft E, ball crank lever F, pitmans G and H, and rollers M, substantially as described and

for the purpose specified. 6th. The guard A, sliding on the pivoted frame D, in combination with the suitably journalled shaft E, bell crank lever F, pitmans G and H, chains I, pulleys O, spindle J, ratchet-wheel K, and dog L, substantially as described and for the purpose specified.

No. 47,184. Lasting Machine.

(*Machine à enformer.*)



The Goodyear Shoe Machinery Company, of Portland, Maine, assignee of William A. Copeland, Molden, administrator of the estate of George W. Copeland, and Joseph E. Crisp, Sommerville, both in Massachusetts, U.S.A., 5th October, 1894; 6 years.

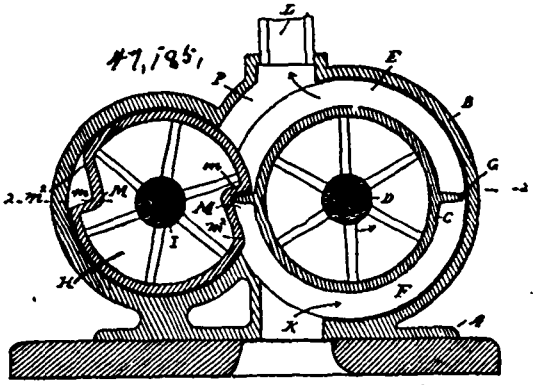
Claim.—1st. In a lasting machine of the kind described, a jack and operating mechanism therefor, substantially as described, whereby said jack may be elevated to the requisite height to last the sides of the upper by hand, and then be caused to descend below, and then be again slightly raised up to the line of action of toe and heel lasting plates, and there be locked, in combination with lasting heads, having lasting mechanism mounted therein, which lasting heads by mechanism timed to co-operate with that moving the jack, swing into, and are locked in operative position in unison with the descent of said jack, and are ready to meet the last as the jack raises to their level, all substantially as shown and described. 2nd. In a lasting machine of the class described, a jack inclined towards the operator during the side lasting process, and capable of being revolved upon a pivot-pin at said inclination, substantially as shown and described, in combination with a foot treadle and suitable connecting mechanism, whereby said jack can by a downward motion of said treadle be caused to take correct vertical and lineal position and then to descend below and again raise up to the line of action of heel and toe lasting mechanism and there be locked during the heel and toe lasting process, substantially as shown and described. 3rd. In a lasting machine of the class described, the combination of the spring A^6, affixed to the base of the machine, and the lever D^5, affixed to the jack operating mechanism, and said jack operating mechanism, substantially as and for the purpose set forth. 4th. In a lasting machine of the class described, a jack and operating mechanism, substantially as described, in combination with an auxiliary treadle F, and suitable connecting mechanism, all operating substantially as described. 5th. A toe or heel lasting or conforming band, substantially as shown and described, composed of two independent flexible bands elastically mounted and operating each side of the median line of a last to assure the contact of uppers thereto, substantially as shown and described.

No. 47,185. Rotary Pressure Blower or Force Pump.

(*Machine soufflante à pression rotatoire ou pompe foulante.*)

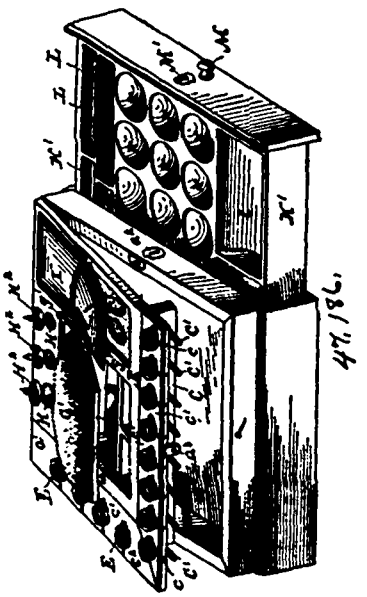
Jos. S. Godfrey and Samuel Row, both of Lansing, Michigan, U.S.A., 8th October, 1894; 6 years.

Claim.—1st. In a rotary pressure blower or force pump, the combination of a casing having inlet and exit apertures, a rotary pressure drum within the casing having circumferential marginal flanges diaphragms projecting from the drum between the flanges, and an abutment drum, bearing on the pressure drum between the flanges, and having recesses corresponding to the diaphragms and actuating means for both drums, substantially as described. 2nd. In a rotary pressure blower or force pump, the combination of a casing, having inlet and exit apertures, a rotary pressure drum within the casing, circumferential marginal flanges on said drum, diaphragms projecting from the drum between the flanges, an abutment drum within the casing and bearing on the pressure drum between the flanges, having recesses in its periphery for the diaphragms, and the channel P, extending in the casing from the exit opening to the point of juncture of the two drums, substantially as described. 3rd. In a rotary pressure blower or force pump, the combination of the casing



having inlet and exit apertures, a rotary pressure drum within the casing, diaphragms projecting from the circumferential face of the drum, an abutment drum within the casing, bearing against the pressure drum, having recesses in its periphery for the diaphragms, means for causing a simultaneous movement of the drums, and the channel P, extending into the casing from the exit opening to the point of juncture of the two drums, substantially as described.

No. 47,186. Workbox. (*Boîte à ouvrage.*)



Sarah Flora Bell O'Leary, Waverly, Kansas, U.S.A., 8th October, 1894; 6 years.

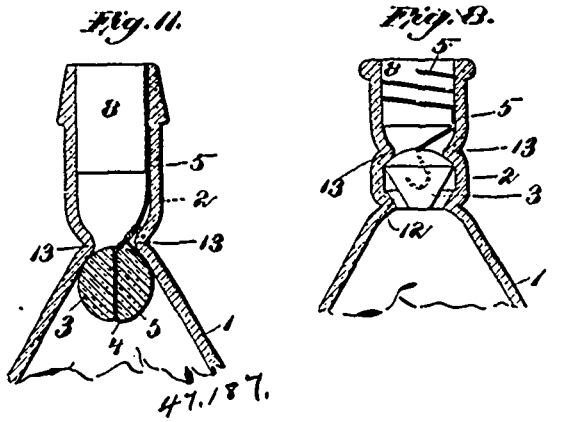
Claim.—1st. A workbox comprising in its construction a body portion provided with a swinging lid, a cleat fixed to the under side of said lid, a spindle fixed to the cleat and projecting parallel with the lid, the said lid having formed therein and adjacent to the spindle, a slot having a straight portion communicating with a curved or segmental portion, and a thread-cutting device pivotally mounted upon the outer side of the lid, the spindle being adapted for the reception of a spool of thread, substantially as described. 2nd. A thread-cutting device comprising in its construction a plate or base board having formed in its edge a slot consisting of a straight portion communicating with a curved or segmental portion, and a cup-shaped knob pivotally secured to the plate or base board with its axis concentric with the segmental portion of said slot, said knob having formed in its sides two oppositely-located notches, and a notched thread-cutting blade secured to the knob and directly adjacent to one of the notches therein, substantially as described.

No. 47,187. Bottle. (*Bouteille.*)

Waldron H. Rand and William B. Rand, both of Boston, Massachusetts, U.S.A., 8th October, 1894; 6 years.

Claim.—1st. The combination with a bottle, and the cork or closure thereof, of a seal connected with the said cork, or closure by an attachment which suspends the said seal in the neck or upper portion of the bottle, and which is broken or disconnected by the

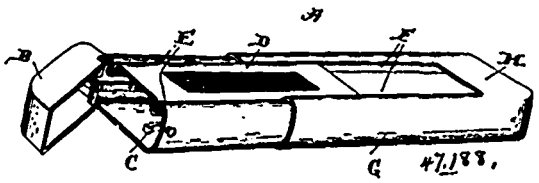
removal of the said cork or closure so as thereby to allow the said seal to descend in the bottle, substantially as described. 2nd. The combination with a bottle having a ring or projection inside the neck



thereof, and the cork or closure thereof, of a seal connected with said cork or closure by an attachment which suspends the said seal in the neck or upper portion of the bottle above said ring or projection and which is broken or disconnected by the removal of the said cork or closure so as thereby to allow the said seal to descend in the neck of the bottle and to rest on the said ring or projection, substantially as set forth.

No. 47,188. Combined Matchbox and Ash Receiver.

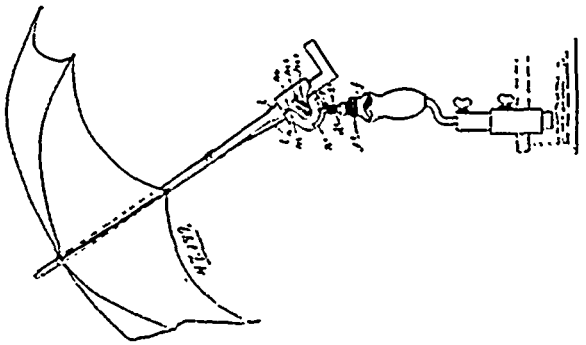
(*Boite à allumettes et receptacle à cendre combinés*)



Theodore Schafer, Maroa, Illinois, U.S.A., 8th October, 1894; 6 years.

Claim.—1st. The combination of a matchbox and a slidable ash receiver telescoping the same, substantially as shown and described. 2nd. The combination of a matchbox, and an ash receptacle forming a jacket for the box when closed therewith but which is adapted to be extended longitudinally therefrom when in use, substantially as shown and described. 3rd. The combination of a matchbox, and an ash receiver movable longitudinally thereon and having its edges to engage guideways on the box, substantially as shown and described. 4th. The combination of a matchbox, longitudinal grooves therein to form guideways, and an ash receiver having its edges turned to move in said grooves, substantially as shown and described. 5th. The combination of a matchbox, an ash receptacle telescoping the box and longer than the latter to form receptacle H at one end, for the purpose shown and described.

No. 47,189. Umbrella Support. (*Support de parapluie.*)



Robert Church, Montreal, Quebec, Canada, 8th October, 1894; 6 years.

Claim.—1st. An umbrella support having a supporting standard formed in two parts and a flexible connection between them, for the purpose set forth. 2nd. An umbrella support having a supporting standard formed with an offset, for the purpose set forth. 3rd. An umbrella support having a supporting standard formed in two parts and a flexible connection between them and having an offset, for the purpose set forth. 4th. In an umbrella support, the combination of a pedestal, a supporting standard, rising from said pedestal and made in two parts with a flexible connection between them, and a swivelling head piece in which the umbrella is set, for the purpose set forth. 5th. In an umbrella support, the combination of a pedestal, a standard rising from said pedestal, a head piece comprising a supporting spindle having a swivelling connection with said standard and clamping device, to receive the umbrella handle, having a pivotal connection with said spindle with means for setting the clamping device in various positions, for the purpose set forth. 6th. In an umbrella handle, the combination of an extensible pedestal, an adjustable standard rising from said pedestal and a head piece, in which the umbrella is set having a swivelling connection with said standard, for the purpose set forth. 7th. An umbrella support having a storm rod extending upward beyond its head or upper end, in which the umbrella is held and parallel with the umbrella handle, its outer end being formed to engage said handle, for the purpose set forth. 8th. An umbrella support having a supporting standard composed of a lower tubular section the upper end of which is formed with depressions, and an upper rod or stempiece the lower end of which enters the tubular section, a coiled spring with its ends connected respectively to said stem piece and tubular section and partially encircling the former, a collar or bonnet piece carried by said stem piece and having its lower edge formed with projections to register with the depressions in the upper edge of said tubular section and a flexible washer between the opposing edges of said tubular section and bonnet piece, for the purpose set forth. 9th. An umbrella support having a supporting standard composed of a lower tubular section, the upper end of which is formed with depressions, and an upper rod or stem piece the lower end of which enters the tubular section, a coiled spring with its ends connected respectively to said stem piece and tubular section and partially encircling the former, an adjustable collar or bonnet piece carried by said stem piece and having its lower edge formed with projections to register with the depressions in the upper edge of said tubular section, a flexible washer between the opposing edges of said tubular section and bonnet piece and means for setting said bonnet piece in place, *for the purpose set forth. 10th. In an umbrella support for vehicles*, the combination, with the seat of the vehicle, of a tubular pedestal base set thereon and supporting sections for the umbrella, adapted to be collapsed within said base, for the purpose set forth. 11th. In an umbrella support for vehicles, the combination, with the seat of the vehicle, of a tubular pedestal base set thereon and supporting sections for the umbrella the uppermost of which is provided with an offset and such sections adapted to be collapsed within said base, and for the purpose set forth. 12th. In an umbrella support, a head piece comprising a supporting spindle and clamping device for the umbrella handle, having a pivotal connection with said spindle, the clamping device having a segmental plate extension with a rack on one side thereof, and the spindle having a pin or projection to engage said rack, a flexible cushion between said spindle and segmental plate extension with a rack on one side thereof, and the spindle having a pin or projection to engage said rack, a flexible cushion between said spindle and segmental plate and means for forcing said plate inward to secure the engagement of the rack thereon with said pin, for the purpose set forth. 13th. In an umbrella support, the combination, with the supporting standard having a peripheral flange at its upper end, of a head piece comprising a supporting spindle and clamping device, for the umbrella handle, having a pivotal connection with said spindle, the clamping device having a segmental plate extension with a rack and concentric flange on opposite sides thereof, and the spindle having a pin or projection to engage said rack, a flexible cushion between said spindle and segmental plate, and an adjustable flanged set plate adapted to fit over the respective flanges of the supporting standard and segmental plate with means for operating such set plate, for the purpose set forth.

No. 47,190. Process of Kindling Fires.

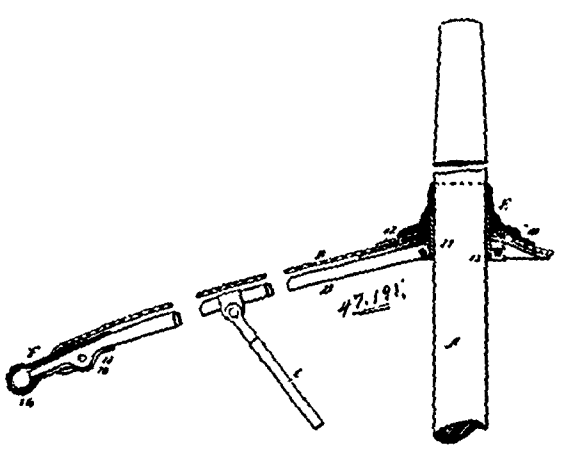
(*Procédé pour allumer le feu.*)

John D. Le Bel, London, Ontario, Canada, 8th October, 1894; 6 years.

Claim.—1st. The method or process of kindling a fire, consisting of first placing a layer of coal or other fuel on the grate-bars, then placing a layer of cotton refuse or other suitable absorbent material on said layer of fuel, then a layer of fusible easily lit materials in a divided solid state, on said cotton refuse, and then igniting said refuse by the use of friction matches or other means commonly employed for such purposes, substantially as described. 2nd. The method or process of kindling a fire, consisting of first placing a layer of coal or other fuel on the grate-bars, then placing a layer of cotton refuse or other suitable absorbent material impregnated with oil on said fuel, then a layer of briquettes of easily lit material on said absorbent material, and then igniting said refuse by the use of friction matches or other means commonly employed for such purposes, substantially as described. 3rd. The method or process of kindling a fire, consisting of first placing a layer of coal or other fuel on the grate-bars, then a layer of wiping waste on said fuel, then a layer of briquettes of a compound of easily lit materials on said waste, and then igniting said refuse by the use of friction matches or other means commonly employed for such purposes,

substantially as described. 4th. The method or process of kindling a fire, consisting of first placing a layer of coal or other fuel on the grate-bars, then placing a layer of cotton refuse or other suitable absorbent material on said layer of fuel, then a layer of resinous easily lit material on said cotton refuse, and then igniting said refuse by the use of a friction match or other means, commonly employed for such purpose, substantially as described. 5th. The method or process of kindling a fire, consisting of first placing a layer of coal or other fuel on the grate-bars, then placing a layer of cotton refuse or other suitable absorbent material on said layer of fuel, then a layer of saccharine easily lit material on said cotton refuse, and then igniting said refuse by the use of a friction match or other means commonly employed for such purpose, substantially as described. 6th. The method or process of kindling a fire, consisting of first placing a layer of coal or other fuel on the grate-bars, then placing a layer of cotton refuse or other suitable absorbent material on said layer of fuel, then a layer of starchy easily lit material on said cotton refuse, and then igniting said refuse by the use of a friction match or other means, commonly employed for such purpose, substantially as described. 7th. The method or process of kindling a fire, consisting of first placing a layer of coal or other fuel on the grate-bars, then placing a layer of cotton refuse or other suitable absorbent material on said layer of fuel, then a layer of a combination of a resinous and saccharine easily lit material on said cotton refuse, and then igniting said refuse by the use of a friction match or other means, commonly employed for such purpose, substantially as described. 8th. The method or process of kindling a fire, consisting of first placing a layer of coal or other fuel on the grate-bars, then placing a layer of cotton refuse or other suitable absorbent material on said layer of fuel, then a layer of a combination of a resinous and starchy easily lit material on said cotton refuse, and then igniting said refuse by the use of a friction match or other means, commonly employed for such purpose, substantially as described. 9th. The method or process of kindling a fire, consisting of first placing a layer of coal or other fuel on the grate-bars, then placing a layer of cotton refuse or other suitable absorbent material on said layer of fuel, then a layer of a combination of a saccharine and starchy easily lit material on said cotton refuse, and then igniting said refuse by the use of a friction match or other means, commonly employed for such purpose, substantially as described.

No. 47,191. Umbrella Cover and Fastening Device Therefor. (*Couverture et attache de parapluie.*)

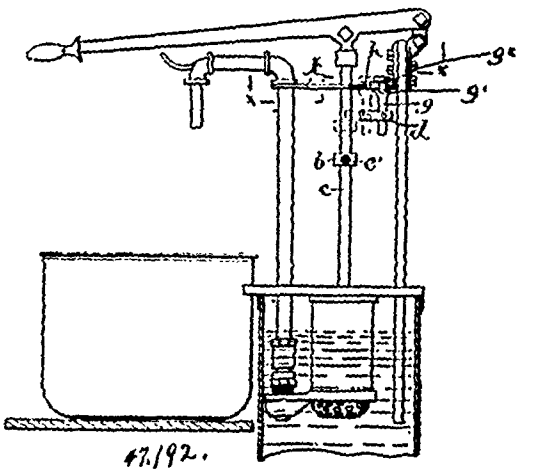


Alfred B. Hunt, Brooklyn, New York, U.S.A., 8th October, 1894; 6 years.

Claim.—1st. An umbrella cover, provided with an opening adapted to receive a stick and with sleeves attached to its outer edge or peripheral surface, said sleeves being provided with a longitudinal slot and an apertured ear, substantially as and for the purpose specified. 2nd. An umbrella cover provided with an opening to receive an umbrella stick and likewise provided with a series of sleeves secured to its terminal peaks or points, each sleeve being provided with a head to receive the enlargement of a rib entered into it, a slot longitudinally produced therein, and an ear having an aperture, the said ear being adapted for attachment to the cover, whereby one size of sleeve may be used in connection with varying thicknesses of ribs, as set forth. 3rd. The combination, with an umbrella stick and its ribs, of a cover having an opening to receive the stick, sleeves located at intervals upon the peripheral edge of the cover, each sleeve being adapted to receive the terminal of a rib and each sleeve being provided with a longitudinal slot and apertured ears, and a cap adapted to be located upon the stick and engage with the cover adjacent to the same, closing the opening in the cover through which the stick is passed, as and for the purpose set forth. 4th. The combination, with an umbrella cover, of a split spring sleeve closed at one end and adapted to be placed over the head section of an umbrella rib, whereby the sleeve will accommodate itself to different sizes of ribs and will automatically clamp the rib, as and for the purpose specified.

No. 47,192. Self-Measuring Pump.

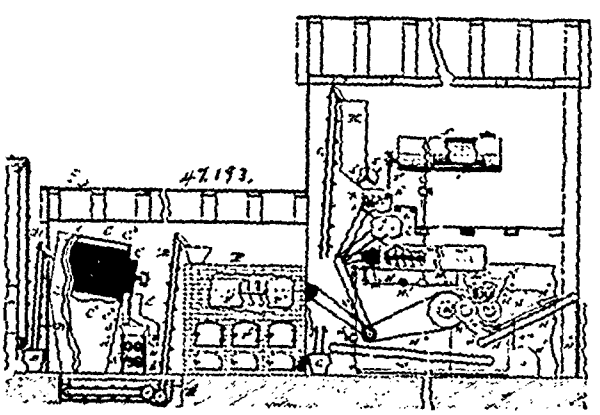
(*Pompe à mesurer automatique.*)



Charles Torrey Williams, Montreal, Quebec, Canada, 8th October, 1894; 6 years.

Claim.—1st. In a self-measuring pump or the like, the quantity regulating stop or stops secured in place upon the carrying part or parts by an internal holdfast and a covering seal therefor, for the purpose set forth. 2nd. In a self-measuring pump or the like, the quantity regulating stop or stops bored laterally and secured in place by an internal holdfast located in said boring and engaging the carrying part or parts and a sealing substance also entering such boring to cover up said holdfast for the purpose set forth. 3rd. In a self-measuring pump or the like, the quantity regulating stops having a lateral screw-threaded boring as *a*, screw holdfasts as *c* located in such boring and engaging the carrying part therefor and the sealing metal c^1 covering up such holdfast for the purpose set forth. 4th. In a self-measuring pump, the combination with the bridge piece *k* slotted at *h*, of the pin or bolt *g* having its upper portion constructed to engage said bridge piece and allow of travel along said slot, and the regulating arm or stop *d* carried by said pin or bolt for the purpose set forth.

No. 47,193. Apparatus for Manufacturing Artificial Fuel. (*Appareil pour la fabrication de combustible artificiel.*)



Max Nirdlinger, Milwaukee, Wisconsin, U.S.A., 8th October, 1894; 6 years.

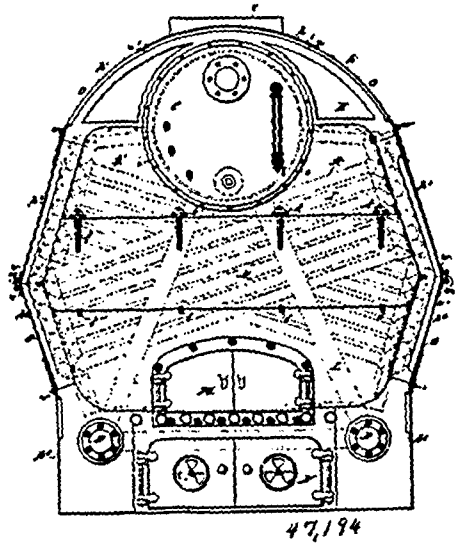
Claim.—1st. In a mechanism for treating coal to prepare it for fuel or compressed blocks, the combination with the drying cylinders and the heating apparatus therefor, of the crushing or grinding devices, the screening mechanism, the duct which carries the fine screened material from the screen, the duct which carries the coarser material from the screen to the grinding mechanism, and the carrying devices which deliver together the fine screened material and the ground or reduced material to the drying apparatus, substantially as set forth. 2nd. In a mechanism for treating reduced or pulverized coal to prepare it for fuel or compressed blocks, the combination of the receiver H, the tank or receiver for the melted binding material, the rotary mixing mechanism, the means for regulating the amount of binding material delivered to the mixer, and the measure for the reduced material interposed between the receiver H and the mixer, substantially as set forth. 3rd. The combination with the mixer K and the tank or holder for the melted binding material, of the

movable trough K^4 interposed between said tank and mixer, substantially as set forth. 4th. The combination with the mixer, and the tank or holder for the melted binding material, of the initially receiving trough for measuring the binding material, and means for rocking said trough, substantially as and for the purposes set forth. 5th. The combination of the mixer, the tank for holding melted binding material, of a stationary measure for the binding material interposed between said tank and said mixer, substantially as described. 6th. The combination with the mixing chamber and the rotary agitators or mixers therein, of the measuring device J for delivering a predetermined quantity of pulverized coal to the mixer, the tank for holding the melted binder, and a measuring trough for the binder as at K^5, substantially as set forth. 7th. The combination with the tank or receiver I^1 to initially hold the binding material, of the heating mechanism for melting the material therein, the supplemental tank I which receives the melted material, the mixer, and the duct extending from the tank I to the mixer, substantially as set forth. 8th. The combination with the cylinder I^1 which initially receives the binding material, of the cylinder I, and the connecting pipes I^2 communicating with the two cylinders at points above the bottom thereof, a duct for withdrawing the melted material from said cylinders, and means for heating them both simultaneously, substantially as set forth. 9th. The combination with the cylinder I^1 which initially receives the binding material, the cylinder I, and the connecting pipes I^2, communicating with said cylinders, of the casings j^1, j, surrounding said cylinders respectively, and means for delivering steam to said casings for heating the said cylinders, substantially as set forth. 10th. The combination with the two preliminary mixers K and L, arranged to act successively upon masses or charges of fuel, and the tempering mixer M, arranged transversely to the mixers K and L, and delivering to the compressing mechanism, substantially as set forth. 11th. The combination with the mixer provided with the rotary attaching devices, of the perforated duct therein, means for delivering air to said duct, means for delivering steam thereto, and cut-offs for the air and steam operated at will, substantially as set forth. 12th. The herein described compressing rolls for forming pulverizing fuel into blocks arranged tangentially to each other, and having opposing cavities, each cavity on each roll having a knife-like or sharpened edge wall extending, substantially around the cavity as set forth. 13th. The herein described compressing roll for use in a fuel machine of the character described, it having rows of oval cavities, those of one row being alternate as to those of the adjacent rows, the edges of each cavity being placed in close proximity to the edges of the adjacent ones to provide knife-like or cutting walls, and the triangular spaces R, having smaller recesses or cavities, whereby the said cutting edges can be extended around the cavities, substantially as set forth. 14th. The combination with the compressing rolls of the mechanism for delivering cooling air to the compressed blocks after they leave the rolls, substantially as set forth. 15th. The combination with the compressing rolls, of the elevator carrier for removing the compressed blocks, and the air ducts arranged to deliver air to the said carrier, for cooling the material thereon, substantially as described. 16th. The combination with the compressing rolls, and the carrier for the compressed blocks, of the carrier for the scraps of waste material, and means of separating said scraps or waste material from said compressed blocks, whereby they may be delivered to the last said carrier, substantially as set forth. 17th. The combination with the compressed rolls, the carrier N^2, and the deflecting plate N^3, of the carrier N^2, and the mechanism for directing a blast of air across the compressed blocks as they drop from the rolls, substantially as set forth. 18th. The combination with the compressing rolls, of a fan and a duct for delivering cooling air to said rolls whereby the latter are kept at a relatively reduced temperature, substantially as set forth. 19th. The combination with the mixing mechanism, the compressing rolls, and the carrier N^2, for removing the compressed blocks therefrom, of carriers extending from below the crushing rolls to the mixing mechanism for redelivering the scraps or waste material from the rolls thereto, substantially as set forth. 20th. The combination with the compressing rolls, the tempering and mixing mechanism, and the tank for the liquid binder, of the drier for the pulverized coal, the crushing and screening mechanism therefor, and the elevator or carrier for delivering the coal from the drier to the mixing mechanism, substantially as set forth. 21st. The combination with the screening mechanism, the drier the mixing mechanism and the compressing rolls, of the tank for the liquid binder, and the relatively large receptacle interposed between the drier and the mixing mechanism, substantially as and for the purposes set forth.

No. 47,194. Boiler Setting. (*Monture de chaudière.*)

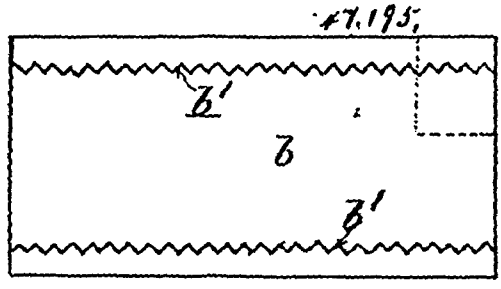
Amasa Worthington, Brooklyn, New York, U.S.A., 8th October, 1894; 6 years.

Claim.—1st. The combination, with the end frames of a boiler setting constructed in plate form, and provided with openings and doors above the fire-box or furnace, of side casings composed of independent sheets or panels secured to said end frames, and provided with openings and doors therein, substantially as described. 2nd. The combination, with the end frames of a boiler setting, and a boiler, of openings and doors in said end frames above the fire-box or furnace, and side casings composed of independent sheets or panels secured to said end frames and provided with openings and doors also above the fire-box or furnace, substantially as described. 3rd. The combination, with the end frames of a boiler setting and a cross tubular boiler, of side casings composed of sheets or panels



and provided with openings and doors in line with the ends of the series of water tubes, substantially as described. 4th. The combination, with a cross tubular boiler, and the end frames of a boiler setting, provided with openings and doors opposite the series of water tubes, of side casings composed of sheets or panels and provided with openings and doors in line with the ends of the series of water tubes, substantially as described. 5th. The combination, with the end frames, and side casings of a boiler setting constructed in sheet or panel form and secured to such end frames by bolts or rivets, of openings and doors to the fire-box or furnace and to the ash-pit, and other openings and doors in the side casings above the fire-box or furnace, substantially as described. 6th. The combination, with the end frames and side casings of a boiler setting constructed in sheet or plate form, of openings and doors to the fire-box or furnace and to the ash-pit, and other openings and doors in both the end frames and side casings above the fire-box or furnace, substantially as described. 7th. The combination, with the end frame E constructed in skeleton form, with its inner or central portions removed, of the plates or panels I, L secured across such open inner or central portions, and the door K, substantially as described.

No. 47,195. Envelope. (*Enveloppe.*)



Richard Raikes, Bromage, Frome, Somerset, England, 8th October, 1894; 6 years.

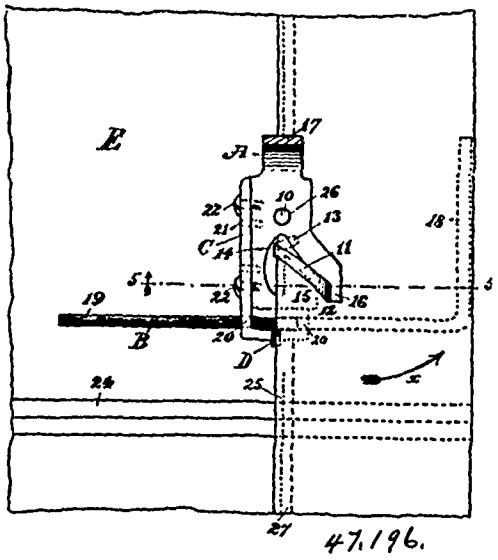
Claim.—In envelopes in combination, a piece *a* having scalloped or serrated edges b^1, a piece *b* secured to the said piece *a* at c^1 by gum or the like, and having prolonged or extended sides or flaps b^2 secured to the piece *a* by gum or the like thus forming an envelope, substantially as described, and illustrated in figures 1, 2 and 3.

No. 47,196. Wide Hemmer. (*Appareil à ourler.*)

Alfred Scott Simons, Port Chester, New York, U.S.A., 8th October, 1894; 6 years.

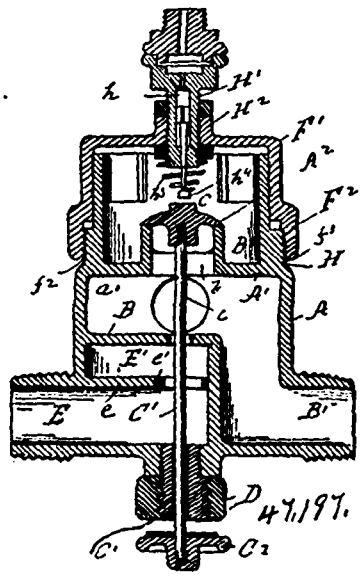
Claim.—1st. The combination of a hemming presser foot, having the customary needle hole curling finger and curling recess, together with an indented entrance, an oblique passageway extending inward from said entrance, and a solid separator, the left hand edge of which is a straight edge in line with said needle-hole, and a laterally adjustable fold cage supported by the toe of said foot and having an effective portion which extends rearwardly beyond the needle-hole, in a line parallel to said straight edge and to the line of feed, substantially as hereinbefore specified. 2nd. The improved wide hemmer, composed of a hemming presser foot, an L-shaped

fold cage of wire or the like, having a rearwardly projecting shorter portion parallel to the line of feet, and a relatively long stem, a



support attached to said foot and having a pair of guides for said stem, and a horizontal screw co-acting with said stem between said guides to fasten said fold cage, substantially as hereinbefore specified.

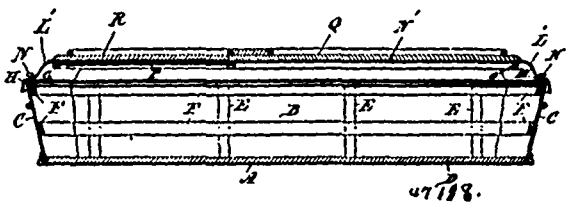
No. 47,197. Carburetor. (*Carburateur.*)



Rolf J. Rolfson, San Francisco, California, U.S.A., 8th October, 1894, 6 years.

Claim.—1st. In a carburetor, the combination of the outer casing having a vapourizing chamber and provided with an air inlet and a gas outlet, and a rotatable cap mounted upon and fitting over the casing and provided with a valved oil inlet. 2nd. In a carburetor, the combination of the outer casing having a vapourizing chamber and provided with an air inlet and a gas outlet communicating with said chamber, a valve controlling the air inlet, a rotatable cap fitting over and mounted upon the casing and provided with an oil outlet, and a spring-actuated valve controlling the flow through the oil inlet. 3rd. In a carburetor, the combination of the casing, having a series of threaded lugs on its outer side and provided with a series of openings in its upper edge, and a threaded cap engaging said lugs and having a series of openings in its side adapted to register with the openings in the casing, said cap carrying an oil-feed valve. 4th. In a carburetor, the combination of the casing, having integral walls and partitions forming a vapourizing chamber, an air inlet and a gas outlet, a valve controlling the air inlet, and a rotatable cap mounted on and fitting over the casing and provided with a valved oil inlet. 5th. In a carburetor, the combination with the outer casing having a vapourizing chamber and provided with an air inlet and a gas outlet, and of a valved oil inlet connected therewith, and of mechanism for operating and controlling the valved oil inlet.

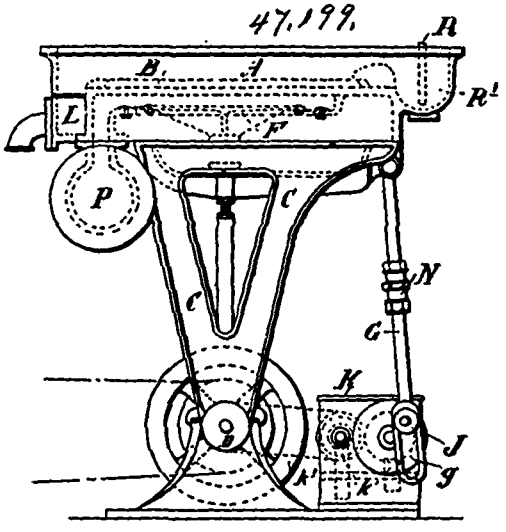
No. 47,198. Burial Casket. (*Cercueil.*)



Henry Carss, Delta, Ontario, Canada, 8th October, 1894; 6 years.

Claim.—1st. A sheet metal air-tight burial case having the bottom and sides of one piece of sheet metal, and the ends C, each of one piece of sheet metal soldered to the sides, the edge of the body inturned and soldered to a metal rim G, and the lid L, having a moulded edge L^1, a rim M, and a rubber casket or packing H, intervening said rims, and screws N, or a suitable fastening securing said body and lid together, as set forth. 2nd. An air-tight burial casket having the body and lid constructed of sheet metal, said body and lid having metal rims G, M, respectively soldered to the meeting edges, and a casket or packing H, between said rims, and the rims secured together by screws N, or like fastenings, as set forth.

No. 47,199. Pulp Strainer. (*Couloir pour la pulpe.*)



D. N. Bertram, St. Katherines Works, Sciennes, Edinburgh, Scotland, 8th October, 1894; 6 years.

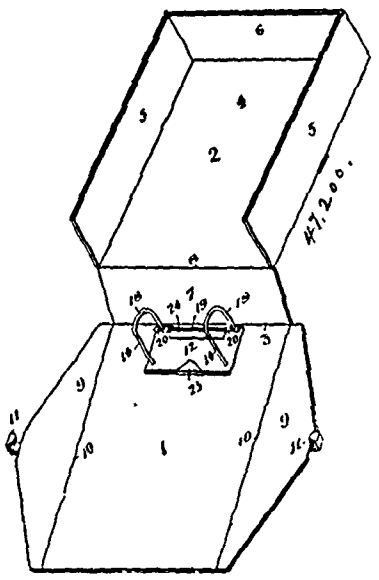
[*Claim.*—1st. In a pulp strainer for paper making machines, the means whereby the back of the vat is intermittently raised and lowered, so as to prevent the refuse matter from being carried back over the strainer plates, as described and shown. 2nd. In pulp strainers for paper making machines, mounting the vat A, on bushes or pins C, and connecting the vat at the back to the top ends of the adjustable connecting rods G, H, the rod G, being driven by the gearing through the medium of the crank pin J, and slot *g*, and the other rod H, provided with a spiral spring H^1, whereby the back of the vat is intermittently raised and lowered, as described and shown. 3rd. In pulp strainers for paper making machines, the right and left hand screws and nuts N, whereby a greater or lesser raising and lowering of the vat may be effected, as described and shown. 4th. In pulp strainers for paper making machines, arranging or forming the slits *b*, of the strainer plates B, lengthwise of the plates and in angular rows, as described and shown. 5th. In pulp strainers for paper making machines, the elliptical sleeve T, eccentrically tapered ends S^1, of the shaft S, collars S^2, screws U, and recesses t^1, with keys t^2, whereby the stroke of the diaphragm may be altered, as described and shown. 6th. In pulp strainers for paper making machines, so mounting the discharge, channel P, that it extends from side to side of the machine whereby an equal suction over the area of the plates B is effected, as described and shown.

No. 47,200. Letter and Bill File. (*Serre-papier.*)

William Otterbein Gottwals, Ottawa, Ontario, Canada, 9th October, 1894; 6 years.

Claim.—1st. In a bill-file, the combination, with a file board provided with the paper-holding arches, of a cover hinged to the upper end of said board, and side flaps hinged to the sides of the boards and adapted to clasp upon the cover when the latter is in place over said arches, substantially as set forth. 2nd. In a bill-file the combination of a file board provided with paper-holding arches, a cover hinged to the upper end of said board and having back end and side

pieces, and side flaps hinged to the sides of the file board and adapted to be clasped over the side pieces of the cover when the latter is in place, substantially as set forth. 3rd. In a bill-file, the combination, of a file board provided with paper-holding arches, of a cover hinged

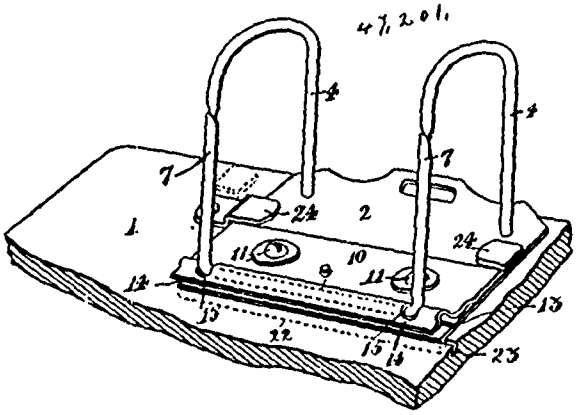


to the upper end of said board and having side and end pieces, and having next to the file board an end piece or back hinged to said board and hinged to the main portion of the cover, and side flaps hinged to the file board and adapted to be secured to the cover when the latter is in place. 4th. In a bill-file the combination of a base plate provided with a bearing or bearings having apertures, arch-members rigidly affixed to said plate, and movable arch-members formed with a cross shank, having their vertical portions passed through said apertures and the said cross shank situated within said bearing or bearings, the ends of said arch-members being adapted to overlap and engage each other as described. 5th. In a bill-file, the combination of a base plate provided with fixed arch-members and having a portion bent up to form a bearing or bearings and provided with apertures, and movable arch-members having a cross shank at their lower ends situated within said bearing or bearings and having their vertical portions passed through said apertures, the ends of one set of said arch-members being provided on their sides opposite to the other arch-members with grooves or sockets which the ends of said other arch-members are adapted to engage, substantially as set forth. 6th. In a bill-file, the combination of a base plate having fixed arch-members and movable arch-members, the latter being provided with a cross shank and elastic bearings on said plate adapted to receive said cross shank, and having apertures for the vertical portions of said movable arch-members, substantially as set forth. 7th. In a bill-file the combination with a paper-holding device, comprising a base-plate, a bearing or bearings thereon, stationary arch-members, and movable arch-members having a cross shank journalled in said bearing or bearings, of a securing plate or clasp adapted to be attached to the file-board and having a rear extension passing between said journal and base-plate, and a front extension or flap adapted to be folded upon said base plate, substantially as set forth.

No. 47,201. Letter and Bill File. (*Serre-papier.*)

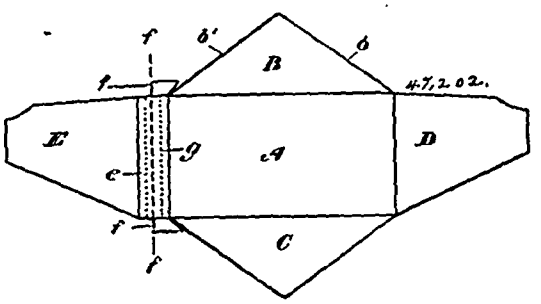
William Otterbein Gottwals, Ottawa, Ontario, Canada, 9th October, 1894; 6 years.

Claim.—1st. In a bill-file, the combination of a stationary arch-members, a base plate, a spring plate secured to the base plate and having a bearing, movable arch-members on a transverse bar or cross shank within said bearing and having a cam portion tending to rest on the base plate, substantially as set forth. 2nd. In a bill-file, the combination of a base plate, stationary arch-members secured thereto, movable arch-members having a cross shank flattened on its lower side and a spring plate having a concave bearing engaging and holding said cross shank in place, substantially as set forth. 3rd. In a bill-file, the combination of a base plate having stationary arch-members and a transverse notch, a spring plate having a concave bearing on its underside, and a cross shank within said bearing having on its underside an angular portion adapted to engage said notch and carrying the upright ends of movable arch-members, substantially as set forth. 4th. In a bill-file, the combination of a file board, a base plate carrying the arches and provided with a transverse flange adapted to engage a groove in the file-board, and locking catches for engaging the base plate to hold the same down upon the face of the file-board, substantially as set forth. 5th. In a bill-file, the combination of a base-plate, having perforations, and the stationary arch-member passing through said perforations and having flat heads, and plates or bodies of solder or other material covering said heads and secured to the plate, substantially as set forth. 6th. In



a bill-file, the combination of a base plate, stationary arch-members secured thereto, a cross shank having movable arch-members and on its under side a cam-shaped portion a spring plate having on its underside a concave bearing pressing upon said cross shank, apertures through which the upright arch-members pass, substantially as set forth. 7th. In a bill-file, the combination of a base plate, stationary arch-members secured thereto, a cross shank carrying movable arch-members and having its lower side flattened to form edges one of which bears on said plate, a journal bearing or bearings enclosing the upper side of said shank, said journal bearing or bearings acting as a spring or springs causing said shank to bear on the base plate, substantially as set forth.

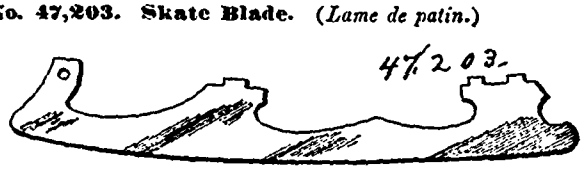
No. 47,202. Envelope. (*Enveloppe.*)



Alexander McNaughton Fisher, Amulree, Ontario, Canada, 9th October, 1894; 6 years.

Claim.—1st. An envelope consisting of a body A, having the usual side flaps B and C, and end flaps D and E, and enlargement at one end of the body A beyond the line of the flaps, and a line of perforations across the said enlargement parallel with the end of the envelope, substantially as specified. 2nd. In an envelope, the combination of the body A, the side flaps B and C, and the end flaps D, E, the enlargement at one end of the body A, the protectors *f* at the sides of the enlargement adapted to be folded over on the adjacent end flap when the envelope is closed, and a line of perforations in the said enlargement parallel with the end of the envelope, substantially as specified.

No. 47,203. Skate Blade. (*Lame de patin.*)

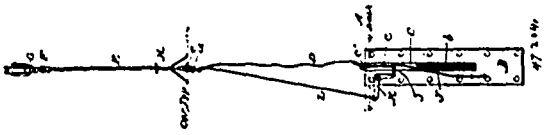


Thomas Wallace Bryant, Torrington, Connecticut, U.S.A., 9th October, 1894; 6 years.

Claim.—1st. A skate blade having a cold-rolled polished outer skin of metal, which is exceedingly thin, formed on its opposite sides, which serve as cutting edges for the intervening metal of the tread, substantially as set forth. 2nd. The method of manufacturing skate blades, which consists in cold-rolling a metal plate, thereby forming thereon an exceedingly hard and smooth outer skin, then cutting or punching the blank from the plate, and finally finishing the tread by grinding, substantially as specified.

No. 47,204. Electric Trolley Attachment.

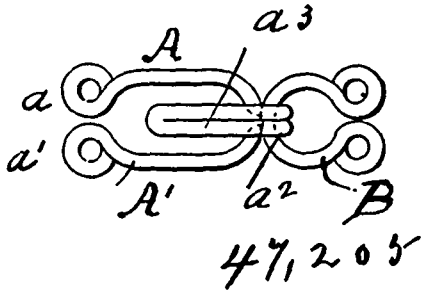
(*Attache électrique de trollée.*)



Martin Van Buren Nichols and James Allen Fraser, both of Port Arthur, Ontario, Canada, 9th October, 1894; 6 years.

Claim.—1st. An improved trolley attachment, comprising a weighted arm, adapted to be connected with the trolley arm, and a trip or detent mechanism held on the car body and arranged to engage such weighted arm, to normally support such arm, and relieve the trolley arm of its weight, as and for the purpose described. 2nd. As an improvement in trolley attachments, a trolley arm having a pendant weight, adapted when held free to pull the trolley down from the wire, and a detent or trip mechanism secured to the car body for holding the said weight to an elevated position, arranged substantially as shown and described. 3rd. The combination with the trolley arm, having a pendent member, of a guide, a weight held for vertical movement therein, detachably connected with the lower end of such pendent member, and a spring catch or detent, held on such guide, adapted to hold such weight to its elevated position, substantially as shown and for the purpose described. 4th. The combination with the trolley arm, and the pendent pole, of a guideway held on the car, a weight held to slide vertically thereon, a flexible connection secured to the weight at one end and the pole at the other, a detent for holding the weight elevated, having an unlocking means connected with the pole, and arranged to be operated by the upward movement of the trolley arm, to release the detent from the weight, substantially as and for the purposes described. 5th. The combination with the trolley arm, the pendent pole pivotally connected to the outer end thereof, and the guide or box adapted to be secured to the dash board, of a weight held to slide vertically on such box, having a handle member, a spring catch adapted to engage such member when the weight is elevated, a flexible connection secured to the weight and to the lower end of the pole, a bell crank lever connected to the catch at one end, and a taut or rigid connection between the lever and the said pole, all arranged substantially as shown and for the purposes described. 6th. The combination with the trolley arm, the bracket on the car top, the pole pivotally connected with the trolley arm, and the guide or box held on the dash-board, of the weight, held to slide vertically on the box, having a handle member, the spring detent, adapted to engage the said handle, the bell crank lever, the taut cord connection connected therewith, the slack cord connection secured to the weight, said cord connections having a snap-hook or detachable connection with the lower end of the pole all arranged substantially as shown and described.

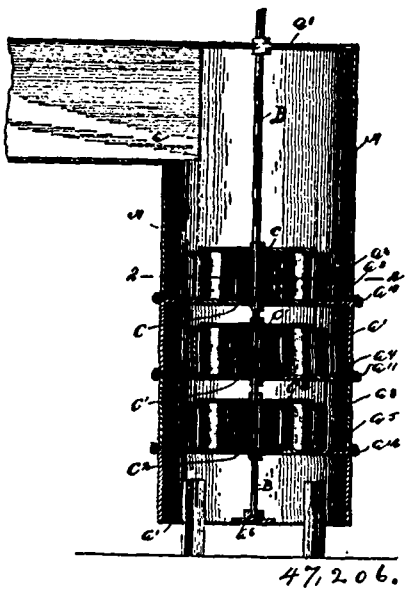
No. 47,205. Hook and Eye. (*Agrafe et porte-agrafe.*)



Henry Storup Wedmore, Guilford, Connecticut, U.S.A., 9th October, 1894; 6 years.

Claim.—1st. A hook and eye in which the bill of the hook is extended down into the plane of the shank of the hook and between two opposite parts of the shank, leaving a sufficient space between the bill of the hook, and the opposite parts of the shank for the passage of the sides of the eye, the bight of the hook forming an enclosure around the eye when the latter is engaged therein against the removal of the eye from the hook, while the hook and eye occupy the same plane, substantially as set forth. 2nd. The combination with a hook having the shank formed in two separated parts, and the bill of the hook extended down into or below the plane of the shank, and extended within said plane, of an eye having outwardly projected shoulders upon opposite sides of its bight, substantially as set forth. 3rd. The combination with an eye, of a hook having its shank formed in two separated parts, the bight of the hook extending from the shank below the plane of the shank thence up, over and down into or below the plane of the shank, and the bill of the hook extending from the bight between the parts of the shank and in the plane of the shank, substantially as set forth.

No. 47,206. Water Wheel. (*Roue hydraulique.*)

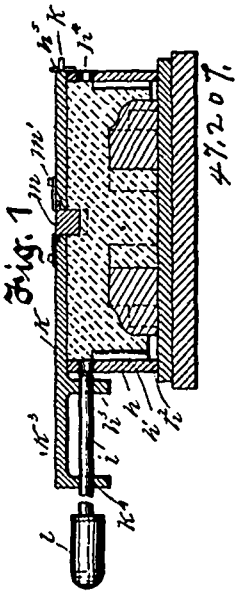


Lewis Wertz, Oregon, Illinois, U.S.A., 9th October, 1894; 6 years.

Claim.—The combination of an air-tight penstock, a shaft journalled therein, two or more wheels fast upon this shaft and having issues of increasing size one after the other, a series of air-tight partitions separating said wheels and suitable inlets and outlets whereby the water is supplied to the penstock, passed first through the wheel having the smallest issue, and then in turn through the wheels, having issues of increasing size and finally discharged at the outlet, substantially as described.

No. 47,207. Mould and Moulding Apparatus.

(*Moule et appareil à mouler.*)



S. Jarvis Adams, Pittsburgh, Pennsylvania, U.S.A., 9th October, 1894; 6 years.

Claim.—1st. In sand moulds, the combination of a series of moulds in line with each other and having mould cavities therein, and a horizontal continuous runner enclosed within the several sand moulds above the mould cavities thereof and communicating with the different down-take runners leading to the mould cavities, substantially as and for the purposes set forth. 2nd. In sand moulds, the combination of a series of sand moulds in line with each other and having mould cavities therein, a horizontal continuous runner enclosed within the several sand moulds above the mould cavities thereof, and communicating with the different channels leading to the mould cavities, and a reservoir extending above the series of moulds and communicating with the continuous runner, substantially as and for the purposes set forth. 3rd. In sand moulds, the

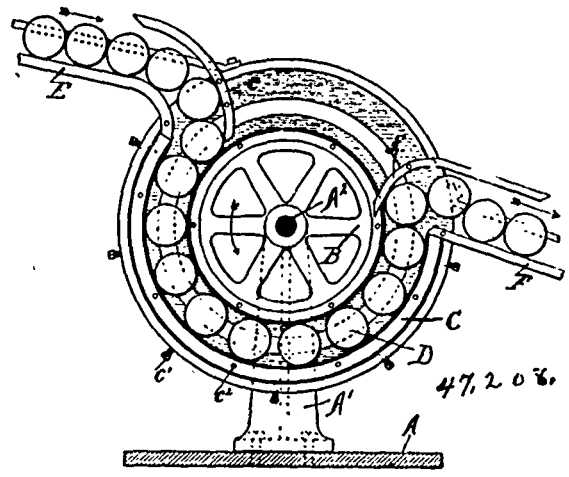
combination of a series of sand moulds in line with each other and having mould cavities therein, a horizontal continuous runner enclosed within the several sand moulds above the mould cavities thereof, and communicating with the different channels leading to the mould cavities, a feeding reservoir communicating with the continuous runner, and a receiving reservoir communicating with the continuous runner, substantially as and for the purposes set forth, 4th. In sand moulds, the combination of a series of sand moulds in line with each other, a horizontal continuous runner enclosed within the same series of moulds above the mould cavities, and down-take runners leading therefrom to the mould cavities, each such down-take runner being of approximately the section of the continuous runner, substantially as and for the purposes set forth. 5th. In sand moulds, the combination of a series of sand moulds in contact with each other, an enclosed continuous runner extending through the same, and runners leading therefrom to the individual mould cavities, the section of the continuous runner in each mould being formed on an incline, substantially as and for the purposes set forth. 6th. In sand moulds, the combination of a series of sand moulds in contact with each other, an enclosed continuous runner extending through the same, the section of the runner extending through each mould being formed on an incline, and a down-take runner or channel leading from such continuous runner at the point of junction of two of such moulds and communicating with the mould cavities, substantially as and for the purposes set forth. 7th. In sand moulds, the combination of a series of moulds placed in contact with each other, an enclosed continuous runner extending through such series, each section of such runner in each mould being formed on an incline, and having a pocket at the lower end thereof, and runners leading from the continuous runner of the individual mould cavities, substantially as and for the purposes set forth. 8th. In sand moulds, the combination of a series of sand moulds placed in contact with each other, an enclosed continuous runner extending through such series, the section of such runner in each mould being formed on an incline and having a pocket at the lower end thereof, and the moulds having the abutment or shoulders opposite such pockets and runners leading from the continuous runner to the individual mould cavities, substantially as and for the purposes set forth. 9th. In sand moulds, the combination of a series of sand moulds placed in contact with each other, an enclosed continuous runner extending through such series, the section of such runner in each mould being formed on an incline, and the moulds having abutments or shoulders at the lower ends of such inclined sections of the continuous runner, substantially as and for the purposes set forth. 10th. In sand moulds, the combination of a mould support, a series of moulds resting on said support and in line and contact with each other, a continuous runner extending through the moulds above and communicating by runners with the mould cavities, and an abutment confining the end mould of the series, substantially as set forth. 11th. In sand moulds, the combination of a series of sand moulds set in line with each other, a horizontal continuous runner enclosed within said several sand moulds, separate runners or channels leading therefrom to the mould cavities, and an abutment confining the end runner leading to the end mould cavity of the series, substantially as and for the purposes set forth. 12th. In sand moulds, the combination of a series of sand moulds, a continuous runner extending through said series of moulds, separate runners or channels leading therefrom to the mould cavities, and an abutment confining the end runner leading to the end mould cavity of the series, said abutment having a sand pocket on its face, substantially as and for the purposes set forth. 13th. In sand moulds, the combination of a series of moulds set in line and in contact with each other, a continuous runner extending through said series of moulds and runners leading therefrom to the mould cavities, abutments at the end of the series to confine the end faces of the series of moulds, and a series of removable mould covers fitting over the tops and sides of the moulds and resisting thereon to confine the same, substantially as and for the purposes set forth. 14th. In sand moulds, the combination of a series of moulds set in line with each other, and having a horizontal continuous runner enlosed within and extending through the same above the mould cavities and down-take runners leading thereto, a reservoir supported on the moulds, and a passage or opening between said reservoir and the continuous runner, substantially as and for the purposes set forth. 15th. In sand moulds, the combination with a set or series of moulds placed in contact with each other, and having an enclosed continuous runner extending through the same, and runners leading therefrom to the individual mould cavities of a knife or cutter adapted to pass through the mould and sever the metal in the continuous runner to separate the castings from each other, substantially as and for the purposes set forth. 16th. The herein described method of forming castings consisting in casting metal within a set or series of sand moulds placed in line with each other by feeding the metal through a continuous runner communicating with the mould cavities in said series of moulds, and substantially, while the metal is confined within the said moulds, severing the metal within the continuous runner to separate the castings from each other, substantially as and for the purposes set forth. 17th. The herein described method of forming castings consisting in casting metal within a set or series of sand moulds placed in line with each other by feeding the metal through a continuous runner communicating with the mould cavities in said series of moulds, and subsequently, while the metal is confined within the moulds and before it is fully set, severing the metal within the continuous runner to separate the castings from each other, substantially as and for the purposes set forth. 18th. In sand moulds, the combination of a series of sets of moulds placed in line and in contact with each other, each set being formed of two or more moulds, the one resting upon the other, a continuous runner extending along said moulds above the mould cavities of the several sets, and down-take runners or channels leading from the continuous runner to the cross gates communicating with the mould cavities in the sets of moulds, substantially as set forth. 19th. In sand moulds, the combination of a set of moulds placed the one on the other, each mould having a mould cavity or cavities, and cores placed within the same, and the mould resting on the one below it confining said cores in place, substantially as set forth. 20th. In sand moulds, the combination of a set of moulds placed the one on the other, each mould having a mould cavity or cavities, and cores placed within the same, and the moulds resting on the one below it confining said cores in place and forming with said mould cross runners leading from the down-take runner to the mould cavities in the lower mould, substantially as set forth. 21st. In combination with a series of sand moulds having down-take runners leading to the mould cavities, a continuous runner above the mould cavities formed at the parting between two mould sections and communicating with the down-take runners, substantially as set forth. 22nd. In combination with a series of sand moulds having down-take channels leading to the mould cavities, a continuous runner formed of an inverted trough resting on said series of moulds and forming a close joint therewith, and having a runner groove communicating with the pouring gates leading to the mould cavities, substantially as and for the purposes set forth. 23rd. In combination with a series of sand moulds having down-take channels leading to the mould cavities, a continuous runner formed of an inverted trough resting on said series of moulds and forming a close joint therewith, and having a runner groove communicating with the pouring gates leading to the mould cavities, said inverted trough being formed of a metal body having a tile or like lining therein in which the runner groove is formed, substantially as and for the purposes set forth. 24th. In combination with a series of sand moulds having down-take channels leading to the mould cavities a continuous runner formed of an inverted trough resting on said series of moulds and forming a joint therewith, and having a runner groove communicating with the pouring gates leading to the mould cavities, said trough having longitudinal ribs formed thereon to enter the sand and insure a tight joint, substantially as and for the purposes set forth. 25th. In combination with a series of sand moulds, having down-take channels leading to the mould cavities, a continuous runner formed of an inverted trough resting on said series of moulds and forming a joint therewith, and having a runner groove communicating with the pouring gates leading to the mould cavities, said trough having horizontal plates extending out at the side thereof, substantially as and for the purpose set forth. 26th. In combination with a series of sand moulds, having down-take channels leading to the mould cavities, a continuous runner formed of an inverted trough resting on said series of moulds and forming a joint therewith, and having a runner groove communicating with the pouring gates leading to the mould cavities, and separate horizontal plates extending along the sides of the trough to confine the mould, substantially as and for the purposes set forth. 27th. In sand moulds, the combination with a series of moulds arranged in line with each other and each resting on a common horizontal support, of side retaining plates extending along two or more of said moulds, and clamps for holding the plates to the moulds, substantially as and for the purposes set forth. 28th. In sand moulding apparatus, the combination with a series of moulds set in line with each other, and each resting upon a horizontal support extending under the series, of a top-retaining plate and side retaining plates extending along two or more moulds in said series and clamps holding said plates to place upon the moulds, substantially as and for the purposes set forth. 29th. The combination of a series of sand moulds set in line with each other, of a pliable mould retaining plate extending along two or more of the moulds in said series, and a clamp for holding it in place, substantially as and for the purposes set forth. 30th. The combination with a series of sand moulds set in line with each other and each resting on a common horizontal support, of a mould retaining plate formed of a series of longitudinal strips and of supports therefor, cross strips connecting and longitudinal strips extending at an angle to such longitudinal strips, substantially as set forth. 31st. The combination with a series of sand moulds set in line with each other and each resting on a common horizontal support, of a top retaining plate, side retaining plates and a clamp bearing on the top plate and engaging the side plates, substantially as and for the purposes set forth. 32nd. The combination with a series of sand moulds set in line with each other and resting on a common horizontal bed, of detachable side retaining plates and a detachable end retaining plate held in place by the side retaining plates, substantially as and for the purposes set forth. 33rd. In sand moulds, the combination of a bed plate, a series of sand moulds placed thereon in line with each other, side and top confining plates, and a U-shaped clamp passing over the side and top confining plates and clamped to the side plates, substantially as set forth. 34th. The combination, with a series of sand moulds set in line with each other, of a top retaining plate, side retaining plates, a clamping device resting upon the top plate and having movable

arms engaging with the side plates, substantially as and for the purposes set forth. 35th. The combination, with a series of sand moulds set in line with each other, of a top retaining plate, side retaining plates, a clamping device resting upon the top plate and having movable arms engaging with the side plates, said arms having inwardly extending lower ends, substantially as and for the purposes set forth. 36th. The combination, with a series of sand moulds set in line with each other, of a top retaining plate and side retaining plates, extending along the same, said side plates being movable with relation to the top plate, and clamping mechanism for holding the said top and side plates in place, substantially as and for the purposes set forth. 37th. The combination, with a series of sand moulds set in line with each other, of a top retaining plate, side retaining plates having the cleats s^8, provided with lugs s^9, and the clamp having arms provided with inwardly extending lower ends, said clamp bearing on the top plate and the free lower ends of its arms engaging with the lugs on the cleats of the side plates, substantially as and for the purposes set forth. 38th. The combination, with a series of sand moulds set in line with each other, of a top retaining plate, side retaining plates, the clamp t, having the bar t^1 bearing on the top plate, the side arms t^2, toggle arms t^3, and link t^4, substantially as and for the purposes set forth. 39th. The combination, with a series of sand moulds set in line with each other, of the side retaining plates having the ribs s^9 at the ends thereof, the end retaining plate t^6, and tightening devices between said end retaining plate and said ribs, substantially as and for the purposes set forth. 40th. The combination, with a series of sand moulds set in line and in contact with each other, of a top retaining plate, side retaining plates, clamping mechanism for holding the same in place, and clamps securing the side retaining plates to the mould support, substantially as and for the purposes set forth. 41st. In sand moulding apparatus, the combination of a flask, a pattern and pattern plate closing the lower end thereof, a confining plate closing the upper end thereof, the flask having guide-holes in its side walls above the pattern, a guideway in line with the guide-holes of the flask, and a runner former fitting in said guideway and adapted to be forced through said guide-holes and through the sand within the flask, and to form a runner extending through the mould above the mould cavity, substantially as set forth. 42nd. In said moulding apparatus, the combination of a flask, a plate adapted to be applied to and confine the sand in the flask, and having a guide at one end, and a runner former adapted to be forced through said guide and through the sand within the flask, substantially as and for the purposes set forth. 43rd. In sand moulding apparatus, the combination of a flask having ribs thereon to mould gates or runners and a confining plate adapted to be applied to the flask, a guide in line with said ribs, and a runner former adapted to be forced through said guide and through the sand within the flask, in line with said ribs, substantially as and for the purposes set forth. 44th. In sand moulding apparatus, the combination of a flask having guide-holes in the side walls thereof, a guide-way in line with said guide-holes, and a tubular cutter filling in the guide-way, and adapted to be forced through the flask, and cut out a runner therein, and carry out the sand therefrom, substantially as set forth. 45th. A tubular cutter for forming runner within sand moulds, having a bevelled cutting edge, and of smaller interior diameter at the cutting edge than in its body, substantially as and for the purposes set forth. 46th. In sand moulding apparatus, the combination of a flask, a plate adapted to be applied thereto, having a pattern or block adapted to be forced into the sand and provided with a guide in line with said pattern or block, and a runner former adapted to be forced through said guide, and through the sand in the flask and in line with said block, substantially as and for the purposes set forth. 47th. In said moulding apparatus, the combination of the flask h, having the loop h^5, and the runner former plate k, having the pin k^1 engaging therewith, and provided with the guide k^3, substantially as and for the purposes set forth. 48th. In sand moulding apparatus, the combination of the flask having the loop h^5, and the holes h^3, h^4, and the runner forming plate k, having the pin k^1 engaging with the loop, and provided with the guide k^3, in line with said holes in the flask, substantially as and for the purposes set forth. 49th. In sand moulding apparatus, the combination of the flask h, having the loop h^5, and lugs h^6, and the runner forming plate k, having the pin k^1 engaging with said loop, and the lips k engaging with said lugs, and the guide k^3, substantially as and for the purposes set forth. 50th. In sand moulding apparatus, the combination of the flask h, the runner forming plate k, having the guide k^3, the block or pattern m, removably attached to said plate in line with said guide, substantially as and for the purposes set forth. 51st. In sand moulding apparatus, the combination with the mould support, and the sand mould resting thereon, of a protesting shield having a horizontal portion adapted to rest upon the sand mould, and a vertical portion adapted to extend down the side thereof, and prevent direct contact therewith, substantially as and for the purposes set forth.

No. 47,208. Crimping Machine. (*Machine à gaufrer.*)

Edward Percy Holdon, Chicago, Illinois, U.S.A., 9th October, 1894; 6 years.

Claim.—1st. In a machine for engaging the ends to the bodies of sheet metal vessels, the combination of two curved sections movable with respect to each other, the curve of one being substantially conformed to the curve of the other, said sections constructed to engage the same end of and to roll the vessel between them, one or more of the sections being provided with a crimping flange laterally adjustable on the body of the section, substantially as described. 2nd.



In a machine for engaging the ends to the bodies of sheet metal vessels, the combination of two curved sections movable with respect to each other, the curve of one being substantially conformed to the curve of the other, said sections constructed to engage the same end of and to roll the vessels between them, one or more of the sections being provided with a crimping flange radially adjustable on the body of the section, substantially as described. 3rd. In a machine for engaging the ends to the bodies of sheet metal vessels, the combination of two curved sections movable with respect to each other, the curve of one being substantially conformed to the curve of the other, said sections constructed to engage the same end of and to roll the vessel between them, one or more of the sections being provided with a crimping flange both laterally and radially adjustable on the body of the section, substantially as described. 4th. In a machine for engaging the ends to bodies of sheet metal vessels, the combination of a revolving wheel section, and an outer stationary frame section partially surrounding the wheel and conforming substantially to the curve thereof, said wheel and frame being a distance apart and adapted to engage the same end of and to roll the vessel between them, one or more of the sections being provided with a crimping flange laterally adjustable on the body of the section or sections, substantially as described. 5th. In a machine for engaging the ends to bodies of sheet metal vessels, the combination of a revolving wheel section and an outer stationary frame section partially surrounding the wheel and conforming substantially to the curve thereof, said wheel and frame being a distance apart and adapted to engage the same end of and to roll the vessel between them, one or more of the sections being provided with crimping flange radially adjustable on the body of the section or sections, substantially as described. 6th. In a machine for engaging ends to bodies of sheet metal vessels, the combination of a revolving wheel section and an outer stationary frame section partially surrounding the wheel and conforming substantially to the curve thereof, said wheel and frame being a distance apart and adapted to engage the same end of and to roll the vessel between them, one or more of the sections being provided with a crimping flange laterally and radially adjustable on the body of the section or sections, substantially as described. 7th. In a machine for engaging the ends to the bodies of sheet metal vessels, the combination with a single shaft of two wheel sections mounted thereon, and two stationary frame sections partially surrounding the wheel sections and conforming substantially to the curve thereof, there being one set of wheel and stationary sections for each end of the can, said sections provided with a crimping flange laterally adjustable on the body of the section, substantially as described. 8th. In a machine for engaging the ends to the bodies of sheet metal vessels, the combination with a single shaft of two wheel sections mounted thereon, and two stationary frame sections partially surrounding the wheel sections, and conforming substantially to the curve thereof, there being one set of wheels and stationary sections for each end of the can, said sections provided with a crimping flange laterally adjustable on the body of the section, and the flanges on the stationary frame being also laterally adjustable, substantially as described. 9th. In a machine for engaging the ends to the bodies of sheet metal vessels, in combination of a revolving wheel, and a stationary frame partially surrounding the same and located a distance therefrom, thus forming a path through which the vessel is rolled, one of said parts provided with a crimping flange, the discharge path being narrower than the entrance, substantially as described.

No. 47,209. Elastic Fabric. (*Tissu élastique*)

Alexander Straus, New York, State of New York, U.S.A., 9th October, 1894; 6 years.

Claim.—1st. The method or process herein described of making

an elastic fabric which consists in stretching a woven fabric diagonally in one direction, and fixing same in such condition by a vulcanized sheet or layer of india-rubber, secured or incorporated there-

Fig. 4

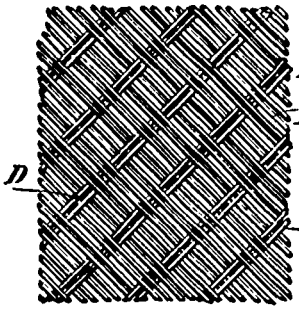
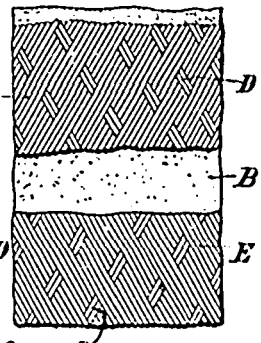


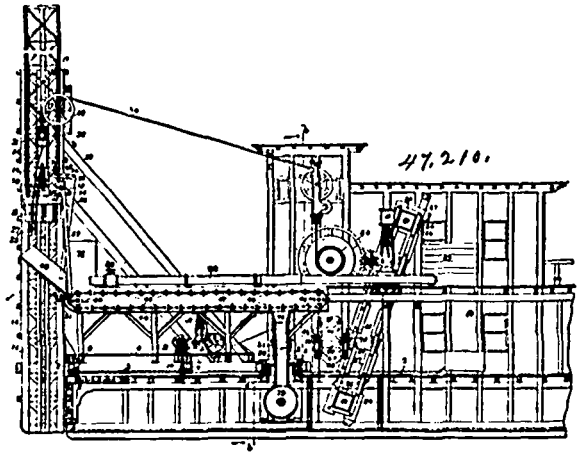
Fig. 3



47,209.

with. 2nd. The method or process herein described of making an elastic fabric which consists in uniting in one or more layers, india-rubber and woven fabric cut bias, stretching the same to the limit of yield of the fabric in one direction and then vulcanizing the rubber, as set forth. 3rd. The material herein described composed of a woven fabric cut bias, and stretched or extended in one direction, and a body or layer of vulcanized rubber united or incorporated with the fabric, as set forth. 4th. The material herein described composed of a woven fabric cut bias, and extended to its limit of yield in one direction, and a body or layer of vulcanized rubber united or incorporated with the fabric, as set forth.

No. 47,210. Dredging Apparatus. (*Appareil à dragage.*)



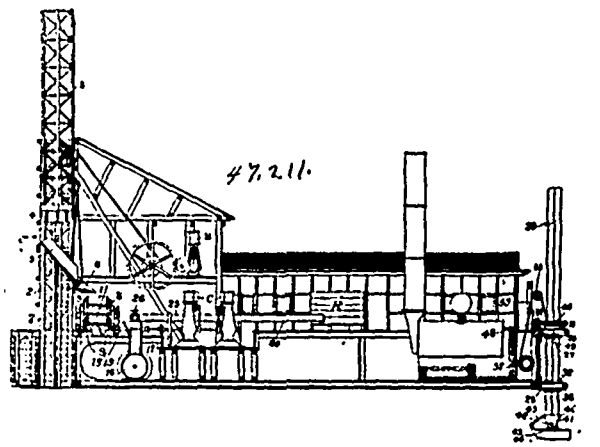
The Chaquette Canal and Harbour Dredging Company, assignee of Ephraim Chaquette, all of Bridgeport, Connecticut, U.S.A., 9th October, 1894; 6 years.

Claim.- 1st. In a dredging apparatus, the combination of a pivoted horizontally supported table capable of swinging in the arc of a circle, a vertically disposed cage secured to the front end of said table, and the digging devices contained within and positively guided by said cage, and means for operating said devices, substantially as set forth. 2nd. In a dredging apparatus, the combination of a horizontally swinging table carrying vertically guided digging devices, means for automatically operated by said devices for receiving the dredgings, means for elevating and lowering said devices and means for opening and closing the same at predetermined times, and instrumentalities independent of the digging devices for conveying the dredgings automatically to any suitable receptacle, substantially as set forth. 3rd. In a dredging apparatus, the combination of vertically guided and operating devices, means for elevating and lowering the same and appliances for opening and closing them at predetermined times, a chute automatically operated by the digging devices for receiving the dumpings from the latter, and instrumentalities for conveying said dumpings to any suitable receptacle, substantially as set forth. 4th. In a dredging apparatus, a horizontally supported and swinging table carrying the following elements, namely, digging devices positively guided in a vertical plane, an automatically operated chute for receiving the dumpings from said devices, and a conveyor for delivering said dumpings into any suitable receptacle, substantially as set forth. 5th. In a dredging apparatus, the combination of a pivoted horizontally swinging table, a vertically disposed guide cage secured to the outer end of said table, a plunger frame guided within said cage and capable of a free vertical movement therein, digging clams pivoted in the bottom of said frame, means for opening and closing said clams at predetermined times, means for elevating and lowering said frame, a chute automatically operated by said frame to swing in and out of said cage and to be in position for receiving the dumpings from said clams when they are opened, and means independent of the digging devices for conveying the dumpings to any suitable receptacle, substantially as set forth. 6th. The combination of the cage, the plunger frame guided therein and carrying the digging devices, the pivoted chute, the rocker bar rigid with said chute, the dogs pivoted to the cage and having noses which project within said cage, the levers whose ends are pivotally connected to said dogs and rocker bar, and the shoulder carried by the plunger frame and capable of acting against said dogs to swing the chute in and out of said cage, substantially as set forth. 7th. In combination with the automatically operated chute in which the dumpings are delivered from the digging clams, the trough into which said chute leads having therein a continually operating series of devices for conveying the dumpings to any suitable receptacle, substantially as set forth. 8th. In a dredging apparatus, the combination of vertically guided and operating digging devices, of means independent of said devices for receiving the dumpings therefrom and conveying them to any suitable receptacle, substantially as set forth. 9th. In a dredging apparatus, the combination of the digging device carried by a table having a horizontally swinging movement, the automatically operated chute and the trough carried by said table, and devices automatically operated within said trough and independent of the digging devices for conveying the dumpings from the latter to any suitable receptacle, substantially as set forth. 10th. In a dredging apparatus, the combination with the digging devices and the trough into which the dredgings are dumped, of means for introducing water within said trough and into said dredgings, and devices for mixing said dredgings, and water and for conveying the same to any suitable receptacle, as a force pump, substantially as set forth. 11th. In a dredging apparatus, the combination, of the trough leading into a force pump or other suitable receptacle for the dredgings, the chute leading into the forward end of said trough, the digging devices and means carried thereby for automatically swinging said chute beneath and beyond the digging devices at predetermined times, instrumentalities continuously operated within said trough for conveying the dredgings throughout the same, and means for automatically introducing water within said trough, thereby thinning the consistency of the dredgings, substantially as set forth. 12th. The combination of the arc-ato rack secured to the forward extremity of the dredging boat, the table pivoted to the deck of the boat and carrying a rotary pinion meshing with said rack, the vertically disposed cage rigid with the forward end of said table, the digging devices guided and operated within said cage, the trough carried by said table and leading into any suitable receptacle for the dredgings, the automatically adjustable chute for receiving the dredgings from the digging devices and leading into said trough, automatically operated instrumentalities within said trough for conveying the dredgings to said receptacle and means for revolving said pinion whereby the table and the parts carried thereby are shifted bodily, but without changing their relative positions, substantially as set forth. 13th. In a dredging apparatus, the combination of the hollow king bolt, the table pivoted around the same, the digging devices carried by the forward end of said table, the instrumentalities for receiving and conveying the dredgings carried by said table, and a vertical chute leading from the bottom of the conveying instrumentalty and near the rear end thereof through said bolt into any suitable force pump, substantially as set forth. 14th. The combination of the shafts journalled within the frame of the boat at points near the top and bottom thereof respectively, the square pulleys carried by said shafts, the endless chain carried by said pulleys, the cans secured to the links of said chain, the water tank at the bottom of the boat and through which said cans are passed, and the reservoir in the upper part of the boat and into which said cans successively empty their contents, substantially as set forth. 15th. In a dredging apparatus, the combination of a pivoted horizontally supported table capable of swinging in the arc of a circle, a vertically disposed cage secured to the front end of said table, the series of independently operating frames carrying the digging clams and contained within and positively guided by said cage, means for opening and closing said clams, and means for lowering and elevating said frames, substantially as set forth. 16th. In a dredging apparatus, the combination of a horizontally swinging table carrying a series of independently operating and vertically guided frames, the digging clams depending from said frame, chutes automatically operated by the latter during their upward movement for receiving the dredgings, means for elevating and lowering said frames independently of each other, means for opening and closing the clams at predetermined times, and instrumentalities independent of the clams for conveying the dredgings to any suitable receptacle, substantially as set forth. 17th. In a dredging apparatus, the combination of the vertically disposed cage, the plunger frame guided therein and carrying digging clams, and means, as a chute, independent of the digging devices for receiving the dumpings from the latter in their elevated

position and for conveying them to any suitable receptacle, substantially as set forth. 18th. The combination of the vertically guided and operating digging clams, the automatically operated chute independent of said clams, and into which the dumpings from the latter are delivered, the trough into which said chute leads, and devices operating continually within said trough for conveying the dumpings to any suitable depository, substantially as set forth. 19th. In a dredging apparatus, the combination of the vertical cage, the series of independent plunger frames, operating and guided within said cage, the digging clams depending from said frames, means for elevating and lowering the latter, means for opening and closing said clams at ends of the upward and downward movements respectively of said frames, and means for receiving the dumpings from the clams when the latter are opened at the end of the upward movements of the frames, substantially as set forth. 20th. In a dredging apparatus, the combination of the digging devices, the trough leading into a force pump, means for delivering the dredgings from the digging devices into said trough, instrumentalities continuously operated within the latter for conveying the dredgings throughout the same, and means for introducing a regulated supply of water within said trough and upon the dredgings, substantially as set forth. 21st. In a dredging apparatus, the frame supporting the devices for removing the dredgings pivotally hung to the deck of the boat. 22nd. In a dredging apparatus, the combination of the vertical cage, the plunger frame guided and operated therein, and carrying the digging devices, and means for locking said cage and frame together when the latter is in its lowest position, substantially as set forth. 23rd. In a dredging apparatus, the combination of the vertical cage, supported by the dredging boat and incapable of vertical movement, the plunger frame guided and operated within said cage, the digging devices carried by said frame, and appliances carried by said frame and automatically operated by the vertical movements thereof, for locking said frame and cage together when the frame is at its lowest position, substantially as set forth. 24th. In a dredging apparatus, the combination of the vertically guided and operated plunger frame, the digging clams pivoted at the bottom of said frame, instrumentalities carried by said frame and operatively connected at the digging clams for opening and closing the latter, and means for operating said instrumentalities, substantially as set forth. 25th. In a dredging apparatus, the combination of the stationary vertical cage having ratchet bars, the plunger frame guided and operated therein, the pawls carried by said frame and capable of being thrown into and out of engagement with said bars, the bell cranks pivoted to the frame and loosely connected at their lower legs to said pawl, the vertical resilliently acting lifting pin carried by said frame, and having at its upper end a block to which is secured the hoisting cable, and the rods 41 pivotally connected to the upper legs of said bell cranks and to said block, substantially as set forth. 26th. The combination of the stationary vertical cage having vertical ratchet bars on the inside thereof, the plunger frame guided and operated therein and carrying at its lower end the digging clams, the vertical lifting pin extending freely through a cross bar of said frame and having secured to its lower end below said cross-bar with a block, the coil spring within the housing and around said pin and confined between the cross-bar and the bottom of the housing, pawls carried by said frame and capable of being thrown into and out of engagement with said ratchet bars, bell cranks pivoted to said frame and having their lower legs loosely connected with said pawls, rods having their ends respectively pivoted to the upper legs of said cranks and to said block, and means as a cable secured to said block for operating the frame, substantially as set forth. 27th. The combination of the plunger frame and the digging clams pivoted at the lower end thereof, the cylinder carried by said frame and having at the top and bottom inlet ports, the piston within said cylinder and extending downwardly therefrom and having on its lower extremity a block, the toggle levers pivotally connected to said block and to the digging clams, and means for introducing steam alternately into said cylinder through said ports, substantially as set forth. 28th. The combination of the valve casing each having at diametrically opposite points inlet and outlet openings and each provided with an exhaust opening leading at right angles to the inlet and outlet openings, the block having T-shaped ports as described and snugly fitting within said casing but capable of rotation, said ports being disposed in planes at right angles to each other, and means for rotating said block in harmony, substantially as set forth. 29th. In a dredging apparatus, the combination of the vertical cage, the plunger frame guided and operated therein and carrying the digging devices, a cable whereby said frame is elevated and lowered, and means dependent upon the slacking of said cable for automatically locking said cage and frame together, substantially as set forth. 30th. In a dredging apparatus, the combination of the vertical cage supported by the dredging boat, the plunger frame guided and operated within said cage, the digging devices carried by said frame, the cable whereby the latter is elevated and lowered, and appliances secured in part to the cage and in part carried by said frame and adapted to be automatically operated by the slacking of said cable to lock said frame and cage together, substantially as set forth. 31st. In a dredging apparatus, the combination of the vertical cage and the plunger frame guided and operated therein and carrying the digging devices, and automatically operated locking devices secured in part to the cage and in part carried by the frame for locking said cage and frame together, substantially as set forth.

No. 47,211. Dredging Apparatus.

(*Appareil de dragage.*)



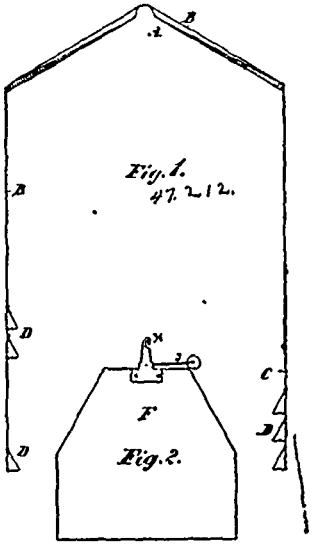
The Chaquette Canal and Harbour Dredging Company, assignee of Ephraim Chaquette, both of Bridgeport, Connecticut, U.S.A., 9th October, 1894; 6 years.

Claim.—1st. In a dredging apparatus, the combination of a series of vertically disposed guide cages secured in alignment rigid with the end of the dredging boat, a series of frames within such cages and capable of being independently elevated and lowered, digging clams pivoted at the lower extremities of said frames, instrumentalities for conveying the dumpings to any suitable depository, means for receiving the dumpings from the digging clams, and for leading them to said instrumentalities, substantially as set forth. 2nd. In a dredging apparatus, the combination of a series of frames carrying pivoted digging clams, and guided and operated within fixed and stationary cages, the shed fixed in position, the independently operating chutes, whereby the dumpings are received from the digging devices and deposited in said shed, and the endless series of buckets which receive the dumpings from the shed, and carry them to any suitable receptacle, substantially as set forth. 3rd. In a dredging apparatus, the combination of the endless series of buckets which receive the dumpings from the digging devices, the pump having the funnel extending upward therefrom, the trough below said buckets and leading into said funnel, and the screw capable of revolving within said trough and beneath the buckets, substantially as shown and described. 4th. In a dredging apparatus, the combination of the digging devices, the independently operated chutes and the shed, all arranged as described and all incapable of any horizontal swinging movement independent of the dredging boat, with instrumentalities below said shed for receiving the dumpings and conveying them to any suitable depository, substantially as set forth. 5th. In a dredging apparatus, the spud pivoted to the lower end of a rotary and vertically movable stem secured in position at the rear of the dredging boat, substantially as set forth. 6th. In a dredging apparatus, the combination of suitable keepers secured to the rear of the dredging boat, bushings within these keepers, the stem within said bushings and capable of a vertical movement therein, the spud pivoted to the lower end of said stem, and means for turning said stem axially, substantially as set forth. 7th. In a dredging apparatus, the vertical stationary cages secured to the end of the boat, and the frames capable of being elevated and lowered within said cages, each frame carrying a pair of pivoted digging clams, substantially as set forth. 8th. In a rotary force pump for a dredging apparatus, the combination of a cylindrical casing, a rotary drum journalled therein, and having extending from its circumference a series of spirally inclined wings whose outer extremities conform closely to the inner wall of said casing, and a feeding funnel leading into the casing at a point in the rear of said wings, substantially as set forth. 9th. In a rotary force pump for a dredging apparatus, the combination of the cylindrical casing having its forward end tapered inwardly to a point where it is joined to the conduit pipe, and the rotary drum journalled within the casing and having spirally inclined peripheral wings whose outer extremities conform closely to the inner wall of said casing, said drum having a conical-shaped nose which projects within the tapered portion of the casing, substantially as set forth. 10th. The combination of the cylindrical casing, the journal box secured to the rear end thereof and having projecting from its inner wall an annular bearing, the shaft journalled within said box and projecting from the forward end thereof, the hollow drum having an interior central hub rigidly mounted on said projecting end of the shaft and having at its rear end a circumferential flange which is journalled within the inner bearing of the journal box, and the aspirally inclined wings extending from the circumference of said drum and conforming closely at their extremities to the inner wall of the casing, substantially as set forth. 11th. The combination of the cylindrical casing, the journal box secured to the rear end thereof

and having projecting from its inner face an annular bearing and with its central portion extending inwardly to form a hub, the shaft journalled within said box and projecting beyond said hub, the hollow drum enclosing said hub and having an interior hub which is rigidly mounted on said projecting part of the shaft in close proximity to the hub of the journal box, and provided at its inner end with a circumferential flange which is journalled within said annular bearing, and the spirally inclined wings extending from the circumference of said drum to the inner wall of said casing, substantially as set forth. 12th. The combination of the cylindrical casing, the journal box secured to the rear end of said casing and having projecting from its inner face an annular bearing and a central hub, the hollow drum having at its rear end a circumferential flange journalled within said bearing and provided at its central portion with a hub which abuts against the end of the hub of the journal box, both of said hubs extending within the hollow drum, the shaft journalled within said box and secured to said drum through the hub thereof, and lubricating channels for water leading within said box along the shaft and between the abutting faces of said hubs into the hollow drum, whereby the latter is kept full of water, substantially as set forth. 13th. The combination of the cylindrical casing, the journal box secured to the rear end thereof and having projecting from its inner face an angular bearing and a central hub, the shaft journalled within said box and projecting beyond said hub, the hollow drum having a central interior hub secured to the projecting end of the shaft and abutting against the hub of the journal box, and said drum also provided at its rear end with a circumferential flange journalled within the said annular bearing, means for revolving said drum, and means for constantly supplying water to the interior of said drum whereby the bearings will be constantly washed as the drum revolves, substantially as set forth.

No. 47,212. Apparatus for Milking Cows.

(*Appareil pour traire les vaches.*)



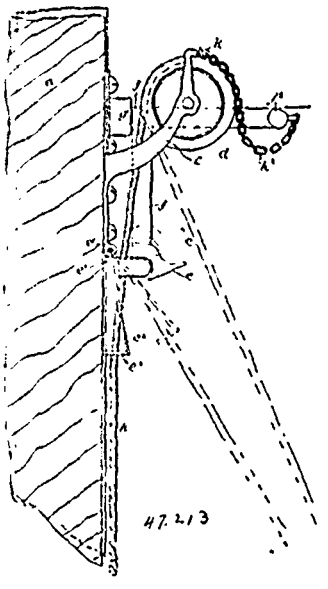
James P. Armstrong, Bristol, Quebec, Canada, 9th October, 1894; 6 years.

Claim.—An apparatus for milking cows comprising a yoke A, adapted to saddle the back of a cow, strap B passing over said yoke, and a strap C buckled thereto, said straps provided with loops or catches D, a pail E having ears provided with hooks H, for attachment to said loops, and a tube or catheter inserted in the teats of the cow, substantially as set forth.

No. 47,213. Device for Opening, Closing and Locking Transoms. (*Appareil pour ouvrir et fermer à clef les traverses.*)

Joseph Kneen, the firm of James Walker & Company, and the firm of Thomas and D. Kneen, all of Montreal, Quebec, Canada, 9th October, 1894; 6 years.

Claim.—1st. As a means for opening and closing transomes hinged centrally or at their lower edges a single operating cord attached at one end and to the transome, a support on the frame for such cord and the latter arranged to present a slack section of its length between said support and its point of connection with the transome to allow of using the main length of cord for the purpose of moving outward or opening the transome through an intermediate device upon which the main length of the cord will bear. 2nd. As a means for opening and closing transomes hinged centrally a single operating cord attached at one end to the transome, a support on the frame for such cord, a projection from the transome at a point below said support for the cord to bear upon when pulled outward from a vertical position, and the cord arranged to present a slack section of its length between said support and its point of connection with the transome, for the purpose set forth. 3rd. In a



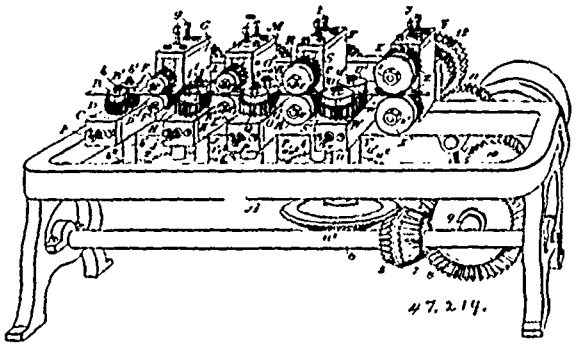
device for opening and closing locking transomes, the combination with a locking device, of a single operating cord connected at its upper end with said transome, a support on the frame for such cord and the latter being operatively connected with said locking device, and arranged to present a slack section of its length between said support and its point of connection with the transome, for the purpose set forth. 4th. In a device for opening, closing and locking transomes which are hinged centrally or at their bottom edges the combination with a support for an operating cord, mounted on the frame adjacent to the transome, of an arm or finger projection carried by the transome and extending across the face of said frame, a gravity lock on the said frame adapted to engage said finger, and an operating cord secured at its upper end to the transome passing over said support or pulley, down behind said finger and operatively connected with the gravity lock, the said cord being further provided with an enlargement near its upper end and acting in conjunction with the said support to prevent the pull upon same extending to the point of connection with the transome at times for the purpose set forth. 5th. In a device for opening and closing transomes which are hinged centrally or at their bottom edges, the combination with a support or pulley, for an operating cord mounted on the frame adjacent to the transome, of two arms or finger projections from the transome, one of which arms is bent downward and across the face of said frame, and the other, of which is projected outwardly to have the upper end of the operating cord secured thereto, an operating cord so secured at its upper end, passing over said support or pulley and down behind the finger extending across the frame, with means to which its lower end can be secured, and a stop engaging said operating cord to prevent the pull upon same extending to the finger to which its upper end is secured when the transome is being opened by pulling such cord outward against the finger extending across the frame. 6th. In a device for opening, closing and locking transomes which are hinged at their bottom edges, the combination with a gravity lock and support or pulley for an operating cord mounted on the frame adjacent to the transome, one of which arms is adapted to be engaged by said gravity lock and the other to have the upper end of the operating cord secured thereto, an operating cord secured at its upper end, operatively connected with the gravity lock carried over said pulley or support and adapted to bear upon the finger engaged by such lock and stop engaging said operating cord to prevent the pull upon same extending to the finger to which such cord is attached when the transome is being opened, for the purpose set forth.

No. 47,214. Method and Machine for Making Horse Nail Blanks. (*Méthode et machine pour faire les ébauches de clous de fer à cheval.*)

Eben Perkins, and Fred E. Marvin, both of St. John, New Brunswick, 9th October, 1894; 6 years.

Claim.—1st. The method of producing horse nail blanks consisting in rolling a continued rod or coil in such a manner that certain portions shall be gradually drawn, reduced and extended to form the shank or blade of the nail, and other portions be left at the original size of the rod from which the head of the nail may be formed by upsetting by suitable means thereby forming a series of horse nail blanks formed head to point, as shown and for the pur-

pose specified. 2nd. A series of vertically journalled pairs of rolls suitably driven, each pair of which is provided with suitably formed notches extending across the peripheral faces of the rolls, the rolls being of increased diameter, and situated at increased distances

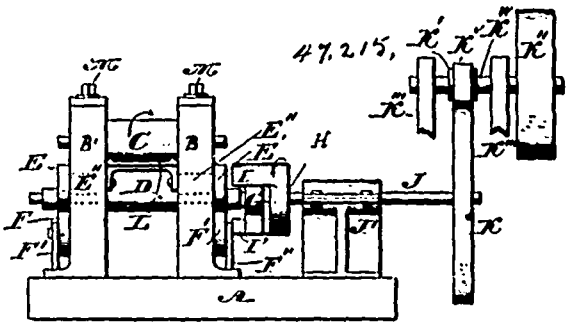


apart from the point of feed of the rod, as and for the purpose specified. 3rd. A series of horizontally journalled pairs of rolls suitably driven, the upper end of each pair of which is provided with a series of notches extending across its peripheral face, and the lower rolls being perfectly cylindrical, the rolls being of increased diameter, and situated at increased distances apart from the point of feed of the rod, as and for the purpose specified. 4th. The combination with the vertically journalled pairs of rolls, each pair of which has suitably formed notches formed across the peripheral faces, of the horizontally journalled pairs of rolls, the upper roll of each pair of which has notches extending across its peripheral face, and the lower roll of each pair being perfectly cylindrical, the horizontally journalled rolls being interposed between those vertically journalled, and so arranged that the co-acting arcs of the horizontally journalled rolls are in direct alignment with the co-acting arcs of the vertically journalled rolls, and all the rolls being of increased diameter from the point of feed of the rod, and driven at a uniform speed, as and for the purpose specified. 5th. The combination with the vertically journalled pairs of rolls having a series of suitably formed notches made across their peripherial faces, and the horizontally journalled pairs of rolls, the upper roll of each pair having a series of corresponding notches formed across its peripheral face, of a horizontally journalled pair of rolls situated at the discharge end of the nail blank rod, the low roll of which is perfectly cylindrial, and the upper roll of which has a corresponding series of projections or cutting edges extending across its peripheral face, as and for the purpose specified. 6th. The combination with the vertically journalled pairs of rolls having a corresponding series of recesses extending across their peripheral faces, suitably journalled in the bearing box, secured to the frame of the machine and geared together by gear pinions as specified, of the horizontally journalled pairs of rolls formed as specified, suitably journalled in the vertical box attached to the frame of the machine, and geared together by gear as specified, the rolls being arranged so that their co-acting arcs are in alignment, as and for the purpose specified. 7th. The combination with the vertically journalled pairs of rolls formed, journalled and geared together as specified and having set screws for adjusting one roll of each pair, of the horizontally journalled pairs of rolls formed, journalled and geared together as specified and having set screws for adjusting the top roll of each pair, as and for the purpose specified. 8th. The combination with the vertically journalled pairs of rolls formed, journalled and geared together as specified, one roll of each pair being connected together and driven through a chain of gear wheels driven from the main shaft, of the horizontally journalled pairs of rolls formed, journalled and geared together as specified one roll of each pair being connected together and driven through a chain of gear wheels driven from the main shaft, as and for the purpose specified.

No. 47,215. Method of Forming Rolls for Manipulating Metals. (*Méthode de former des rouleaux pour la manipulation des métaux.*)

George Barnett and Henry Barnett, assignee of Henry James Gosling, all of Philadelphia, Pennsylvania, U.S.A., 9th October, 1894; 6 years.

Claim.—1st. The separable upper and lower forming rolls C D, mounted in housings B B^1, said housings being provided with slots E^2 E^2, in which slots the journals of the lower roll D set, said journals being provided with cams E E^1, idler rollers F F^1, upon which said cams set, whereby, while the upper roll is out of service, the revolution of said lower roll D will revolve the cams, and the latter, acting on the idler rollers, will serve to raise said lower roll and permit it to fall, all combined and operating substantially as and for the purposes described. 2nd. The separable upper and lower forming rolls C D, mounted in housings B B^1, said housings being provided with slots E^2 E^2, in which slots the journals of the lower roll D set, said journals being provided with cams E E^1, idler rollers F F^1, upon which said cams E E^1 set, whereby, by the revolution of said lower roll D, the motion of the cams on said idler rollers will serve to raise said lower roll and permit it to fall, carrier G, provided



with a lug G^1, and set on the end of one of the journals of the lower roll, and revolving driver H, provided with a striker arm I, all combined and operating substantially as and for the purposes set forth.

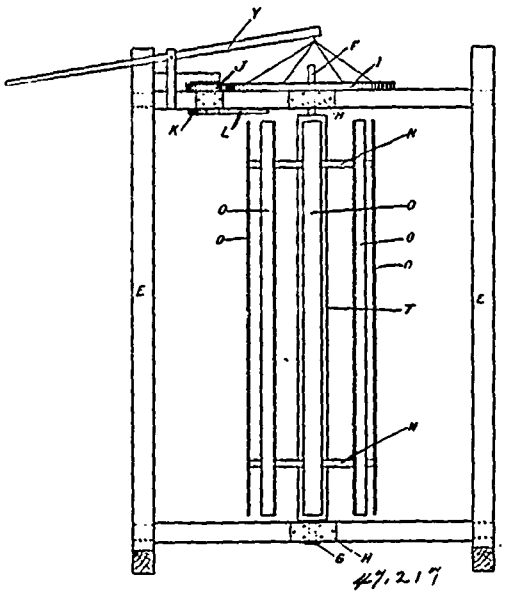
No. 47,216. Cakes and Crackers and Process of Making same. (*Procédé pour faire des gâteaux, etc.*)

Morris B. Manwaring, New York, State of New York, and Peter J. Gage, Providence, Rhode Island, all in the U.S.A., 10th October, 1894; 6 years.

Claim.—1st. The process of making cakes or crackers consisting in forming the desired farinaceous compound, baking the same, to form cake of ordinary consistency, crumbling the baked compound, providing the crumbs with binding material and moisture and compressing the crumbs together, substantially as specified and as and for the purpose hereinbefore set forth. 2nd. The process of making cakes or crackers, consisting in forming the desired compound, to form cake of ordinary consistency, baking the same, crumbling the baked compound, providing the crumbs with binding material and with moisture applied in the form of spray or vapour so as to moisten the mass uniformly though but slightly, and in compressing the crumbs together, substantially as specified and as and for the purpose hereinbefore set forth. 3rd. As an article of manufacture, a cake or cracker made of baked granulated and compressed farinaceous compound, said cake or cracker having a mottled appearance, substantially as specified and as and for the purpose hereinbefore set forth.

No. 47,217. Art of Making Woven Wire Fences.

(*Art de faire les tissus métalliques.*)

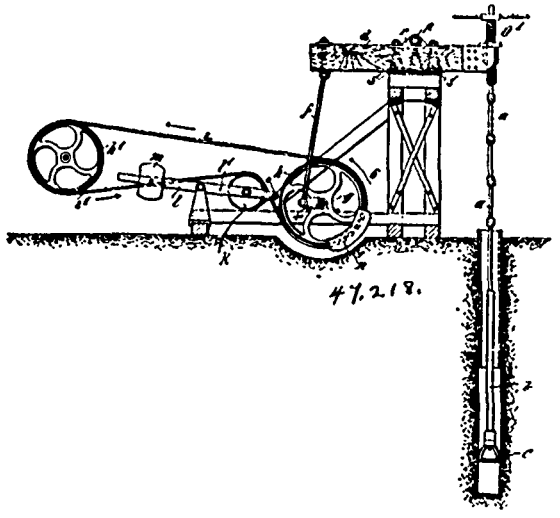


Daniel François Réaume, Montreal, assignee of François Xavier Gagné, St. Aimé, both in Quebec, Canada, 10th October, 1894; 6 years.

Claim.—1st. A tension regulator A to hold the longitudinal wires at a uniform tightness by means of the blocks B, B, and springs C, C, and wooden wedges D, D, substantially as and for the purpose set forth. 2nd. A receiving stretcher E, composed of a frame carrying the cloth receiver in three sections, two of which P, P, are adjustable by means of thumb screws so as to reduce the diameter

and having an axle maintained in its place by hasps, (this receiver being freed from its cog-wheel I by means of arm L, ratchet and pinion K), and cog-wheel I, substantially as and for the purpose hereabove described.

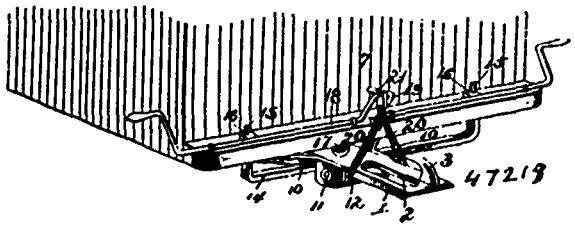
No. 47,218. Boring Apparatus. (*Machine pour percer.*)



Auton Raky, Dürrenback, Alsace, Germa v, 10th October, 1894; 6 years.

Claim.—1st. In a deep-boring apparatus with crank for operating the rods, the combination, with wheel *h*, driving crank *c*, and with belt, rope or chain *i*, *i*¹, driving said wheel *h*, from wheel *h*¹, of a tension-roll *k* adapted to slacken said belt, rope or chain intermittently, for the purpose described. 2nd. In a deep-boring apparatus with crank for operating the rods, the combination, with wheel *h*, driving crank *c*, and with belt, rope or chain *i*, *i*¹, driving said wheel *h*, from the wheel *h*¹, of an eccentric tension-roll *k* adapted to slacken said belt, rope or chain intermittently, for the purpose as described. 3rd. In a deep-boring apparatus with crank for operating the rods, the combination, with wheel *h*, driving crank *c*, and with belt, rope or chain *i*, *i*¹, driving said wheel *h* from wheel *h*¹, of an eccentric tension-roll *k* adapted to slacken said belt, rope or chain intermittently, said tension-roll being driven by an auxiliary belt, rope or chain *u*, for the purpose described. 4th. In a deep-boring apparatus with crank for operating the rods, the combination, with the wheel *h*, driving the rods *a* by crank *c*, connecting-rod *f*, and beam *d*, and with belt, rope or chain *i*, *i*¹, driving said wheel *h* from wheel *h*¹, of a tension-roll *k* adapted to slacken said belt, rope or chain intermittently, the beam being supported by springs *s*, for the purpose as described. 5th. In a deep-boring apparatus with crank for operating the rods, the combination, with wheel *h*, driving the rods *a* by crank *c*, connecting-rod *f*, and beam *d*, and with belt, rope or chain *i*, *i*¹, driving said wheel *h* from wheel *h*¹, of an eccentric tension-roll *k* adapted to slacken said belt, rope or chain intermittently, the beam being supported by springs *s*, for the purpose as described. 6th. In a deep-boring apparatus with crank for operating the rods, the combination with wheel *h*, driving the rods *a* by crank *c*, connecting rod *f*, and beam *d*, and with belt, rope or chain *i*, *i*¹, driving said wheel *h* from wheel *h*¹, of an eccentric tension-roll *k* adapted to slacken said belt, rope or chain intermittently, the tension-roll being driven by an auxiliary belt, rope or chain *w*, said beam being supported by springs *s*, for the purpose described.

No. 47,219. Car Coupler. (*Attelage de chars.*)

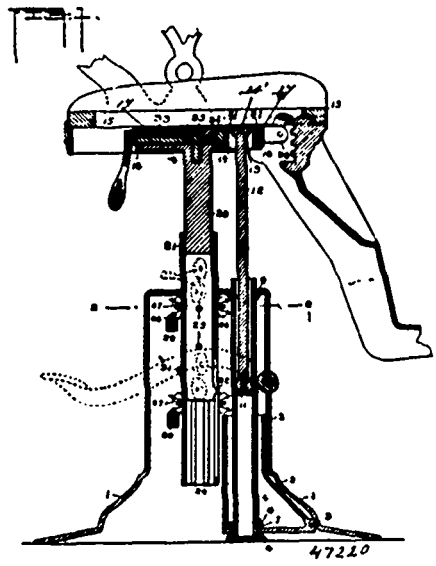


George A. Seidel, Norristown, Pennsylvania, U.S.A., 10th October, 1894; 6 years.

Claim.—1st. In a car coupling, the combination of a transverse pivot-bar designed to be journalled in suitable bearings of a car, a draw-bar mounted on the pivot-bar and provided with an elongated opening arranged transversely of it, forwardly-extending converging braces having their inner or rear ends secured to the pivot-bar, a transverse bolt arranged in the elongated opening of the draw-bar, and securing the outer ends of the braces to the latter, a vertically adjustable support sustaining the draw-bar, and extending beneath the same, and a spring for holding the draw-bar upon the support, substantially as described. 2nd. In a car coupling, the combination of a draw-bar, having a longitudinal opening and provided with an upward-extending hook, and a link consisting of a flat plate provided at its inner end with an opening and having at its outer end an upward-extending hook, substantially as described.

No. 47,220. Dental Chair.

(*Fauteuil pour opération dentale.*)



Dewell Stuck, Rochester, New York, U.S.A., 10th October, 1894; 6 years.

Claim.—1st. In a dental chair, the base, a guide tube 21, a seat guiding-bar, having a recessed extension 14, the seat frame comprising the frame supporting cross-bar, having a recess opening 17, to receive said extension, a seat-elevating rod adapted to enter the recess in the extension, and devices for raising the rod, all combined, substantially as set forth, whereby the chair seat is guided, its vertical range enlarged, and whereby its rotation is limited. 2nd. In a dental chair, the combination of the base, the seat frame, a guide rod 20, and a telescoping guide 21, each made movable in the base, friction wheels interposed between the telescoping parts and also between the guide 21, and the base, said latter guide having tracks for the wheels, and seat elevating and supporting mechanism, substantially as set forth. 3rd. In a dental chair, the combination of the base, the seat frame, a guide rod 20, and a telescoping guide 21, each made movable in the base, friction wheels interposed between the telescoping parts and also between the guide 21, and the base, said latter guide having tracks for the wheels, a friction device adapted to bear on the wheels connected to the base, and seat-elevating and supporting mechanism, substantially as set forth. 4th. In a dental chair, the combination of a base 1, a seat-elevating cylinder extending above the base, a piston rod, a recessed seat-frame bar, a guide-rod 20, and a telescoping guide 21, each made movable in the base, and the guide rod provided with a flat head directly supporting the seat frame bar, both bar and head being recessed to permit the rod and cylinder to extend above the bottom of the cross-bar, all substantially as set forth. 5th. In a dental chair, the combination of the cross-bar to support the seat frame, a vertical bar supporting said cross-bar, a headed bolt secured to the top of the vertical bar and extended through the cross-bar, a frusto-conical washer adapted to bear upon the under side of the bolt head, and a screw situated in the cross-bar to force the washer against the head and lock the bars together, the head, washer and screw being situated above the bottom of the seat frame, substantially as set forth.

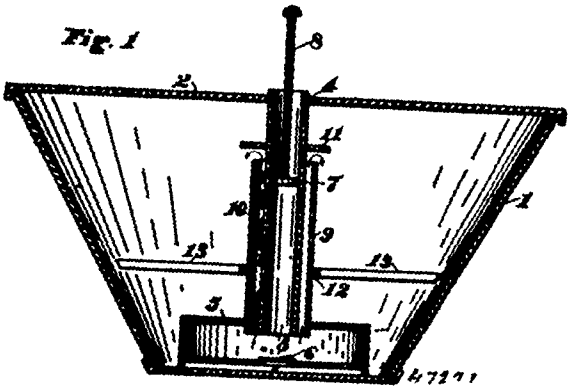
No. 47,221. Dish Cleaner. (*Machine à laver la vaisselle.*)

Monroe Downs Colbath, Sprague's, Maine, U.S.A., 10th October, 1894; 6 years.

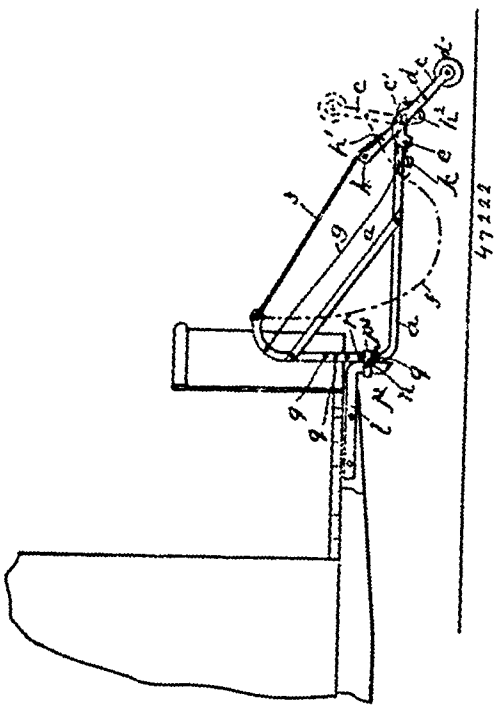
Claim.—1st. The combination with a suitable pan or container, of concentric outer and inner cylinders arranged axially in the pan or container, and having open upper and lower ends, a valve receiver communicating with the lower ends of said cylinders, a plunger operatively mounted in the inner cylinder, and a deflecting shield carried by the inner cylinder and projecting laterally over the upper end of the outer cylinder, substantially in the manner and for the purpose shown and described. 2nd. The combination with a pan or

container, of concentric inner and outer cylinders arranged axially in the pan or container, a valved receiver communicating with the lower ends of the cylinders, a plunger operatively fitted in the inner cylinder, a deflecting shield carried by the inner cylinder and projecting laterally over the upper end of the outer cylinder, and a dish-rack fixed exteriorly to the outer cylinder, and having its periphery arranged contiguous and conforming to the walls of the pan or container, substantially as set forth and described. 3rd. The combination with a pan or container provided with a cover, and having a central opening, of concentric outer and inner cylinders arranged axially in the pan or container, the inner cylinder projecting above the upper end of the outer cylinder and extending through the central opening in the pan cover, the upper ends of both cylinders being open, a valved receiver communicating with the lower ends of the cylinders and resting upon the bottom of the pan or container, a plunger operatively fitted in the inner cylinder, a deflecting shield fixed exteriorly to the inner cylinder and projecting laterally over the upper end of the outer cylinder, and a dish-rack carried by the outer cylinder with its periphery contiguous to the walls of the pan or container, substantially as shown and described.

Fig. 1



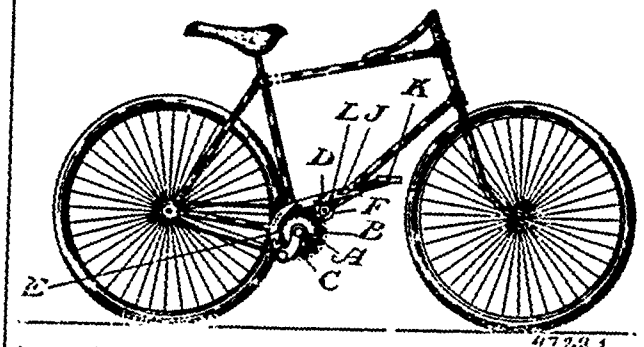
No. 47,222. Street Car Fender. (*Défense de chars de rue.*)



William John Himphy, Montreal, Quebec, Canada, 10th October, 1894; 6 years.

Claim.—1st. A car fender comprising a flexible receiver and a carrying frame therefor adapted to normally hold such receiver in a taut condition and to be collapsed by pressure upon the receiver for the purpose set forth. 2nd. In a car fender, the combination with a stationary main framing and means for attaching it to the car, of a movable section pivotally connected to the forward end of the main framing and a flexible receiver extending between the rear of said framing and said movable section for the purpose set forth. 3rd. A car fender comprising a flexible receiver and carrying frame therefor provided with a movable inclined section adapted to normally hold such receiver in a taut condition and an auxiliary lifting device located beneath such receiver and actuated by pressure upon it to elevate such inclined section for the purpose set forth. 4th. In a car fender the combination with the stationary framing, comprising the side frames *a* and transverse upper and lower connecting connecting rods, with means for securing it to the car, of the movable inclined section, comprising the arms *c c*, pivoted to the forward ends of the stationary framing, and the transverse connecting rod and roller carried between them with suitable retaining stops, the flexible receiver or net extending between the upper connecting rod of the stationary framing and the connecting rod of the movable section for the purpose set forth. 5th. In a car fender, the combination with the stationary framing, comprising the side frames *a*, and transverse upper and lower connecting rods, with means for securing it to the car, of the movable inclined section, comprising the arms *c c*, pivoted to the forward ends of the stationary framing, and the transverse connecting rod and roller carried between them with suitable retaining stops, the flexible receiver or net extending between the upper connecting rod of the stationary framing and the connecting rod of the movable section and the auxiliary lifting device comprising the bar *h* and pivoted arms h^1 having projections h^2 for the purpose set forth. 6th. As a clamping device for the attachment of car fenders to cars, the combination with the floor stringer of the car, of a carrying strip projecting downward therefrom, a bearing plate on one side of such strip, and a clamping plate on the opposite side, each plate projecting sufficiently to receive the rear frame piece of the fender and the clamping plate having its inner end bent at an oblique angle to bear against a beveled edge of the bearing strip and its outer end bent across the outer edge of the frame piece with a bolt passing through both plates and carrying strip and a tightening nut for the purpose set forth. 7th. As a clamping device for the attachment of car fenders to cars, the combination with the floor stringer of the car, of a carrying strip *l* projecting downward therefrom, a bearing plate *o* on one side of such strip, and a clamping plate *p* on the opposite side, each plate projecting sufficiently to receive the rear frame piece *a* of the fender and the clamping plate having its inner end p^1 bent at an oblique angle to bear against a bevelled edge of the bearing strip and its outer end p^2 bent across the outer edge of the frame piece *a* with a bolt *m* passing through both plates and carrying strip and a crank nut *n*, for the purpose set forth.

No. 47,223. Bicycle Gearing. (*Engrenage de bicycle.*)



George Lacy Darling, Simcoe, Ontario, Canada, 10th October, 1894; 6 years.

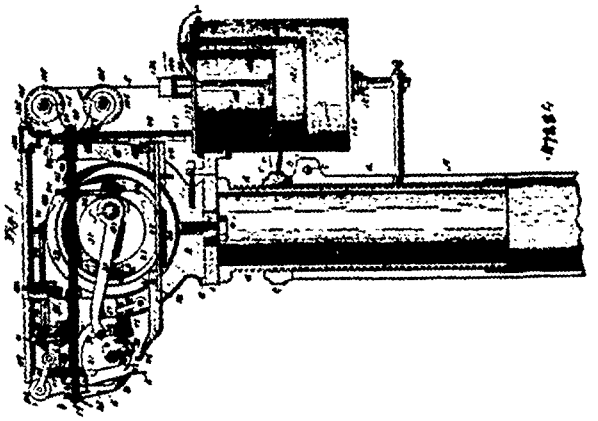
Claim.—1st. In a bicycle, a ratchet-wheel revolving with the driving sprocket-wheel, in combination with a propelling lever adapted to engage with the said ratchet-wheel and pivoted on a link hung from the spindle or hub of the same, substantially as and for the purpose specified. 2nd. In a bicycle, a ratchet-wheel revolving with the driving sprocket-wheel, in combination with a propelling lever adapted to engage with the said ratchet-wheel and pivoted on a link hung from the spindle or hub of the same, a spring being provided to raise the said propelling lever, substantially as and for the purpose specified. 3rd. In a bicycle, the ratchet-wheel B, rigidly connected with the sprocket-wheel A, in combination with the link C, propelling lever D, and lug E, substantially as and for the purpose specified. 4th. In a bicycle, the ratchet-wheel B, rigidly connected with the sprocket-wheel A, in combination with the link C, propelling lever D, lug E, and pedal K, substantially as and for the purpose specified. 5th. In a bicycle, the ratchet-wheel B, rigidly connected with the sprocket-wheel A, in combination with the link C, propelling lever D, lug E, pedal K, and spring-actuated arm L, substantially as and for the purpose specified. 6th. In a bicycle, the ratchet-wheel B, rigidly connected with the sprocket-wheel A, in combination with the link C, propelling lever D, lug E, spring-actuated arm L, and pedal K, substantially as and for the purpose specified.

No. 47,224. Sewing Machine. (*Machine à coudre.*)

Francis Arthur Mills, and James Mundell, both of Philadelphia, Pennsylvania, U.S.A., 10th October, 1894; 6 years.

Claim.—1st. The needle carrier formed of the joined plates and

forked at each end, a pivot-pin on which said carrier is loosely mounted, and a needle-guide fixed on said pivot-pin in the fork of the carrier, in combination with the pitman-rod connected in the



other fork of the carrier, and suitable means for operating the needle-guide, substantially as described. 2nd. The needle-carrier mounted loosely upon its pivot-pin and working between fixed guide-walls, in combination with a needle guide fixed upon said pivot-pin and having a stud at its pivot connected end for engagement with said carrier, an arm fixed on the end of said pivot-pin, stops for limiting the movement of said arm, a spring connecting said arm with the machine, and the crank operated pitman-rod, the said pivot-pin being also loosely mounted, for the purpose stated. 3rd. The sewing-head structure constructed of side plates, one of which is arched at its lower front corner, and forming interior guide-walls, in combination, with the needle-carrier mounted on the other side plate, and fitted to work between said guide-walls, whereby to permit access to the needle-carrier, and to give a firm lateral support to its crank connected end, substantially as described. 4th. The centre-head structure of open semi-circular form a sewing-head structure supported in overhanging relation at the front end of said centrehead, the feed lever device and the back-gage mounted in said sewing-head, and the slide-rest mounted in said centrehead, in combination, with operating cam devices mounted in bearing supports, substantially as described. 5th. A semi-circular centrehead and a separate sewing-head structure mounted upon and overhanging the front end of said centrehead, in combination with a looper-device supported at one end in said sewing-head, extending through the open body of the centrehead, supported in its rear side and having a looper-arm depending in front of the sewing-head, a slide rest extending through the open body of the centrehead and supported therein, the needle-carrier, the feed-lever device, and the back-gauge severally mounted in the sewing-head, and suitable operating mechanism for the several parts, substantially as described. 6th. The combination of the supporting stand comprising a lower fixed member and an upper vertically adjustable and swivelling member, with a centrehead containing the sewing mechanism and mounted upon the upper member of the stand, cam-cylinders rotating within the centrehead, and pillar-supports upon the swivelling member for said cam-cylinders, whereby the centrehead may be properly aligned with said cam-cylinders and the latter with the needle. 7th. The combination of a centrehead comprising an inverted archway open at the top and forming front and rear pillars, a separate sewing-head or housing mounted on said front pillar, the needle-carrier and the back-gage mounted in said sewing-head, the looper-device and the slide-rest both arranged to cross the open archway, and separate cam-cylinders arranged within said archway having the crank connecting pitman for the needle-carrier between them and between the looper and the slide-rest devices, and mechanism connecting said cam-cylinders for operating the looper, the work-supporting and the feed-devices, substantially as described. 8th. The combination, with the sewing-head, and a centrehead forming a inverted archway open at the top, of a back-gauge, a spring connecting it with said sewing-head, a cam-cylinder arranged in the centrehead archway and a device connecting the back-gauge and the cam-cylinder consisting of a rocking-pin 42 having an arm 41 connecting the back-gage and the cam-cylinder consisting of a rocking-pin 42 having an arm 41 connecting the back gauge and an arm 43 having a roll 44 connecting the said cylinder, whereby the back-gauge is operated and locked by rigid connections. 9th. The combination of an arched centrehead and a sewing head mounted in overhanging relation at the front thereof, of separate cam-cylinders arranged in the centrehead archway and connected by a crank-pin, a needle-carrier, its crank connected pitman-rod between said cams, the back-gauge, the slide-rest and the feed-device, mechanism between the cam-cylinders for operating the looper-device, mechanism at the top of the sewing-head for operating the feed-device, mechanism at the side of the centrehead for operating and locking the back-gauge, and mechanism at the rear of the centrehead for locking the slide-rest, substantially as described. 10th. The combination, with the centrehead structure containing the sewing mechanism, of the separate cam-cylinders mounted on independent shafts at each side of the centrehead, a crank-pin connecting said cylinders, the needle-operating pitman-rod between said cylinders, and means for removably securing said crank-pin to said cylinders, substantially as described. 11th. A structure for sewing machines, comprising an inverted arch having a flat base open at its top, and a separate housing overhanging the front arch-wall, in combination with a looper arm overhanging the front housing, and mechanism for operating it, arranged within the archway, substantially as described. 12th. The combination, with a centrehead structure for containing the operating mechanism, and a hollow supporting standard therefor, of a screw-stem fixed to said centrehead and telescoping with said standard, a screw-ring engaging said screw-stem, seated upon said standard, and means for clamping said screw-stem within and to said standard, for the purpose stated. 13th. The combination, with a centrehead structure for containing the operating mechanism, of a hollow standard split vertically at its upper end and having a clamp device at the split, a screw-stem fixed to said centrehead and telescoping with the split standard, and a screw-ring engaging said screw-stem and seated upon said standard, for the purpose stated. 14th. A centrehead structure of a shoe-sewing machine, consisting of a base-plate, a semi-circular open body upon said base-plate, a sewing-head housing mounted upon and overhanging the front side of said semi-circular body, and standard bearings upon said base-plate, for containing and supporting in operative relation the sewing, feeding and work-supporting devices, substantially as described. 15th. A centrehead structure consisting of a semi-circular open body forming front and rear pillars, the front pillar bifurcated, and the base having a tongue, a base-plate at right angles to said semi-circular body, having a transverse groove for said base-tongue and longitudinal surface grooves, standard bearings adjustably fitted in said surface grooves, a cross slot in said base-plate and a bolt passing through said slot for adjustably securing the centrehead structure upon said base-plate, and a sewing-head housing fitted in and overhanging the bifurcated pillar, the said semi-circular body and sewing-head housing adapted to contain the working mechanism in operative relation. 16th. A centrehead structure and housing for sewing machines, consisting of a semi-circular body having a flat-base, open at the top and at the sides, of a greater length than width, having its front side bifurcated and formed with tongues on its inner walls, a base plate at right angles to said semi-circular body, standard bearings on each end of said plate, in combination with a sewing head housing having vertical recesses matching the tongues of the bifurcated front of the centrehead and secured therein, whereby the sewing-head housing is supported in overhanging relation to the front end of the centrehead for the purpose stated. 17th. A centrehead structure for sewing machines adapted to contain and support the operating mechanism, and having a screw stem, in combination with a screw-ring engaging said stem, an expansible hollow cylindrical base support on which said ring is free to be swivelled and forming a walled-guide for said stem, and a device for clamping said guide-walls upon said screw-stem, substantially as described. 18th. In a shoe-sewing machine, a hollow standard and a hollow screw-stem, in combination, with a centrehead structure for containing the operative mechanism, a screw-ring upon said screw-stem having a seat upon the open top of said standard, substantially as described. 19th. The combination, with a needle, of a lipped-lever arranged to operate in the channel of the sole to feed the shoe, and mechanism for imparting to the lipped-end of said lever a movement at right angles to the path of the needle and an outward oblique movement away from the bottom of the sole-channel, substantially as described for the purpose stated. 20th. A feed device for shoe sewing machines, comprising a vertically rocking lever having a channel-lip, and a horizontally rocking lever for imparting a sidewise movement to said vertically rocking feed-lever simultaneously with its vertical rocking movement, in combination, with operating connections for said levers, whereby the said channel-lip is caused to travel in a saw-tooth like path. 21st. A channel feed-device for sewing machines consisting of the two levers constructed and connected substantially as herein described, in combination with cams for separately operating the connected levers simultaneously, whereby the lever part having the feed-lip is caused to describe a zig zag path in relation to the bottom of the channel. 22nd. A feed-device for sewing machines, comprising a vertically rocking lever having a channel-lip, and a horizontal swinging lever for imparting a sidewise movement to said channel-lip simultaneously with its vertical movement, a cam and a spring for operating said vertically rocking lever and cams for imparting sidewise movements to said horizontal lever, for the purpose stated. 23rd. A feed-device for shoe sewing machines, comprising a vertically rocking lever having a channel-lip and mounted upon a pivot-bearing having a side hole, axial wear-pins, and an adjusting wear-screw terminating in one of said wear-pins, a horizontal swinging lever having a pin entering said side hole between said axial-pins for imparting a lateral movement to said channel-lip simultaneously with its vertical movements, in combination with operating connections for said levers, substantially as described. 24th. In a shoe sewing machine, a feed-device comprising a vertically rocking lever having a channel-lip, and a horizontal swinging lever for imparting a sidewise movement to said channel-lip simultaneously with its vertical movements and having a pair of rolls, in combination with a spring and a cam for imparting to said

lever its vertical rocking movements, and separate cams for operating the lever having the pair of rolls, substantially as described, for the purpose stated. 25th. The combination, with the sewing-head, and a barbed needle, of a feed-lever device, mechanism for imparting to said feed-lever device a vertically rocking and a lateral reciprocating movement, and an adjustable stop 79, arranged to limit the upward movement of the feed-lever while the needle is about to enter the shoulder of the sole. 26th. In a shoe sewing machine, a feed-device, comprising a vertically rocking lever having a feed-lip at one end, a roll at its other end and a fulcrum-pivot-pin between these points, and a horizontal lever loosely engaging said fulcrum-pin and having a pair of rolls at its other end, cams for operating said levers, said cams being so timed that the first named lever has vertical and sidewise simultaneous movement imparted to its describing a triangular path. 27th. The combination with a feed-device, of a back-gauge, an arm 43 connected therewith, a spring 45, connected to move said gauge rearward, and a cam 40 adapted to move said back-gauge outward toward the needle, and to lock and hold it in position for supporting the work while the stitch is being tightly drawn, substantially as described. 28th. The combination with a needle, a feed device and a back-gauge, of a device for operating said gauge consisting of the arm 41, a rock-pin 42, the adjustable arm 43, upon the latter having the roll 44, a cam 40 constructed to move said gauge outward and to lock it, and a spring for retracting said gauge, substantially as described. 29th. The combination, with a slide-rest, of a locking device therefor consisting of a friction-block 49, seated upon said slide, a lever 50 seated upon said friction-block, a spring 51 upon the free end of the lever 50, and the cam 57 for operating the said levers, substantially as described. 30th. The combination, with a slide-rest and its projecting spring, of a locking device for said slide-rest consisting of the friction-block 49, the lever 50 crossing upon said friction-block, and the lever 54, arranged on the side of the centrehead, an adjustable screw 58 in the end of said lever 54, supporting the end of said lever 50, a spring 51 upon the end of the latter lever, and a cam 57 for releasing the pressure of said spring, substantially as described. 31st. In a shoe sewing machine, the back-gauge and the slide-rest, combined with an independent locking cam for each so timed as to maintain the lock of the back-gauge a longer time than the lock for the slide-rest for the purpose stated. 32nd. In a shoe sewing machine, the combination of the two feed-levers, the one 26 having the channel-lip and the sliding bearing-pin 74, thereof having the circumferential recess, the other lever 70, having the pin 71, engaging said recess, and the pair of rolls 71^2, the cam 63, and the pair of cams 72, for operating the feed-lip in the way, and for the purpose stated. 33rd. The combination with a curved barbed-needle, of a fed-device consisting of a vertically rocking bell-crank lever having a channel-lip at one end, a horizontal face-cam for operating its other end, and a horizontal rocking lever connected with the horizontal pivot bearing of said vertically rocking lever, and a pair of vertical face cams for vibrating the other end of said horizontal rocking lever, whereby the vertically rocking lever is caused to have simultaneously a movement in each of two directions, thus imparting to the channel-lip, a movement in a triangular path in the way, and for the purpose stated. 34th. The combination of a barbed needle, and a looper-arm, with a spring connected and adapted by its tortional force to maintain upon said arm a lateral pressure in one direction, and a cam adapted to move said arm in the opposite direction, whereby said looper-arm is positively operated in one direction sidewise and is free to yield in the opposite direction in the event of striking the needle, substantially as described. 35th. The combination, with a barbed needle, of a hanging looper-arm, a rock-rod therefor, and a coiled spring on said rod connected to maintain thereon a force both of tension and of tortion whereby to cushion the looper-arm in the event of its coming in contact with the needle, and means for moving said rod, substantially as described. 36th. The combination, with a hanging looper-arm, a horizontal rock-rod on which it is mounted, a pair of rolls mounted in a cross-head loosely fitted on said rod, and a pendant roll arm fixed on said rock-rod, of a cam cylinder engaging said rolls, a face-cam on one side of said cylinder engaging said roll-arm, and a spring on said rock-rod connecting the latter with a fixed part of the machine, for operating the looper in the way, and for the purpose stated. 37th. The combination, with a hanging looper-arm, a horizontal rock-rod on which it is mounted, having a pair of rolls mounted in a cross-head loosely fitted on said rod, and a pendent roll-arm fixed on said rock-rod, of cams for engaging said rolls, a spring on said rock rod connecting the latter with a fixed part of the machine, and means for adjusting the looper-arm in and out in relation to the needle, substantially as described. 38th. In a shoe sewing machine, a looper-device comprising a horizontal rock-rod, an arm hanging from one end thereof terminating in a looper finger, a spring coiled on said rod connected for rocking it in one direction and for moving it forward, a pair of rolls carried by a cross-head loosely mounted on said rod, and a roll carrying-arm fixed upon and depending from said rod for rocking said rod in a direction opposite to that given to it by said spring, the said pair of rolls being operated to move said rod rearward against the tension of the spring, whereby the said looper is caused to describe a circle around the needle, substantially as described. 39th. The combination, in a shoe sewing machine, of a horizontal rock-rod having a hanging looper-arm at its front end, its other end terminating in a screw-stem, a bearing-sleeve enclosing said screw-stem, a loose cross-head on said rod having a pair of rolls and abutting against the inner end of said sleeve, jam-nuts abutting against the other end of said sleeve, a spring connecting said rod to a fixed part of the machine, a pendent arm fixed on said rock-rod, and suitable cams for operating said rolls and pendent arm, in the way, and for the purpose stated. 40th. The combination of the centre-head and the sewing head structures, and an oscillating curved-barbed needle, with a rod arranged above the needle in fixed bearings at its front end in the sewing-head, and at its rear end in the centre-head, and having a looper-arm depending in front of the sewing-head, and suitable mechanism connecting said rod between said fixed bearings for giving it both a longitudinal and a rocking movement, for the purpose stated. 41st. In a shoe sewing machine, the looper-device, the needle carrier and the crank connecting pitman-rod severally arranged in a vertical plane and longitudinally central of the machine, the looper carrying device being over the pitman-rod and the needle-carrier, and having its looper-arm depending in front of the latter, substantially as described. 42nd. The combination with the centre-head and the sewing-head, of a rod mounted horizontally in bearings in each and projecting from both at each end, having a depending looper-arm fixed on its front end, and a depending arm fixed between its bearings, a spring coiled on said rod fixed thereto, and to the sewing-head, for forcing said rod outward and said arms sidewise in one direction, and suitable mechanism for forcing said rod inward and said arms sidewise in the opposite direction, substantially as described. 43rd. In a shoe sewing machine, the combination of a looper-arm carried by and depending from a horizontal rod, with mechanism for imparting to said rod both a longitudinal and a rocking movement, means for adjusting said rod longitudinally, and a curved barbed needle, substantially as described. 44th. In a shoe-sewing machine, the looper-arm carried by and depending from a horizontal rod, a pair of rolls carried by a cross head mounted loosely on said rod, a roll-arm fixed on said rod, and and a spring coiled thereon connected to give both a longitudinal and a rotary movement to said rod, in combination with cams for engaging said pair of rolls, and a cam for engaging said roll-arm, whereby the looper-arm is caused to have a revolving motion in relation to the needle, substantially in the way described. 45th. In a shoe-sewing machine, the combination of a barbed-needle, the rock-rod mounted in fixed bearings at each end, having a depending looper-arm outside of its front bearing and a depending arm between said bearings, with a cam for engaging said latter arm to vibrate the looper to the right, a feed-lever device and a cam for moving it laterally in the same direction as the looper, the action of said cams being timed, so as to cause both the looper-arm and the feed-lever device to move at the same time immediately after the stitch has been completed, and thereby prevent irregular feed and undue strain upon the thread, as described. 46th. The combination of the centre-head and the sewing-head mounted on the front thereof, the needle-carrier, the feed-device and the back-gage arranged in the sewing-head, with a rod arranged above the said devices in fixed bearings in the sewing-head and in the centre-head, and having a looper-arm depending in front of said devices, and suitable mechanism arranged between said fixed bearings for imparting to said rod both a rocking and a sliding movement in the way described. 47th. In a shoe-sewing machine, a barbed needle carrier, means to actuate it, a horizontal rod mounted in fixed bearings in a plane vertically above the needle-carrier, a looper-arm depending from said rod in front of said needle-carrier, a spring connected with and coiled on said rod, fastened to a fixed frame part, and acting to constantly move the looper-arm both to one side and longitudinally toward the front, and a depending arm on said rod in rear of the needle-carrier, in combination with cams for moving said rod longitudinally rearward, and a cam engaging said inner arm to move the looper-arm to the other side against the tension of said spring and means for adjusting said arm longitudinally to set the looper-arm in relation to the needle, substantially as described. 48th. A loop forming mechanism for sewing machines, consisting essentially of a looper-arm depending from a horizontal rod, and means for imparting to said rod a horizontal and a rocking movement simultaneously, consisting of a spring which acts both by tension and by tortion to move the rod to the front and to rock it in one direction, and cams constructed to act upon said rod to both move it rearward and to rock it in the opposite direction, whereby the looper finger is caused to describe a circular path. 49th. In a shoe sewing machine, the combination, with a curved barbed-needle, of a looper-arm depending from a horizontal rock-rod, and mechanism for causing the looper-finger to describe a full circular path around the needle, consisting of cams acting on said rod to move it longitudinally in one direction and to rock it in one direction, and a spring which co-acts with such cams by its force upon the looper-rod acting in two directions to move it longitudinally in the opposite direction and to rock it in the opposite direction from these movements given said rod by the cams, whereby the said looper-rod is caused to complete such circular path during its forward and rearward movements with respect to the needle.

No. 47,225. Machine for Making Crimped Stove Pipe Elbows. (*Machine pour faire les coudes de tuyaux gaufrés.*)

George Cumin, Montreal, Quebec, Canada, 10th October, 1894; 6 years.

Claim.—1st. In a machine for making crimped stove pipe elbows

the combination of a hollow driving shaft C mounted on brackets B supported in turns on a suitable frame A, this hollow shaft C being provided with the two enlargements c^3 and c^4 having the X

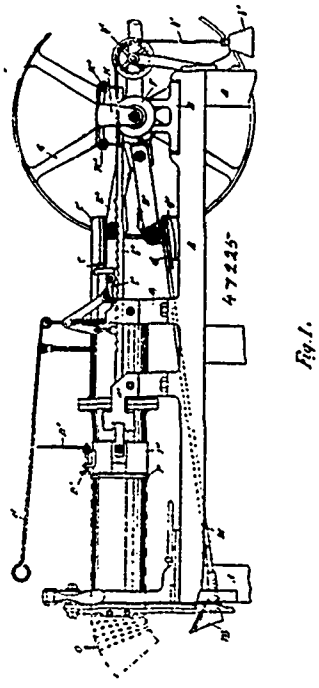


Fig. 1.

shaped slots c^5 and c^6 through them, the rods I^2 and I^3 having the pieces I and I^1 piece F having the cam flange F^1 provided with the two projections F^2, piece K sliding on the rods K^1 and K^2 having the piece k^1 with its two rollers k^3 pivoted to it, piece H, piece L having the rods L^2 joining it to the ring L^1 provided with the piece L^3 having the two rollers l and l^1 main driving pulley G and the eccentrics D and E, with the eccentric rods D^1 and E^1, cross-heads d and e guides d^1 and e^1, rods c^2 and e^2, mandrel N having the pieces N^1 and N^2 secured to the frame A, sliding piece T, flange U^1 having the ball bearing U^2 movable flange U, yoke Y having the slots V and W movable yoke S having the four adjustable pieces S^1, S^2 and S^3, S^4, supported in the two pieces s^5 and s^6, the whole yoke S being supported on the articulated frame R which is worked by the piece m having the roller bearings m^1 and m^2 and joined to the rod N secured to cross-head d, piece s^9, piece Y^1, ring P^1, clamp P, racks t^3 and t^4 cords b^2, weights b^1 pullies b^3 ratchets t^2 and t^3, blocks b, handles B^1 and n, rod d^2 and piece d, substantially as described and for the purposes set forth. 2nd. In combination with a machine for making crimped stove pipe elbows a pipe holder consisting in the piece J having a handle j, elliptic piece j^1, simicular pieces j^2 and j^3, and flanges j^5 and j^6, substantially as described and for the purposes set forth.

No. 47,226. Apparatus for Working and Controlling Railway Signals. (*Appareil pour le fonctionnement des signaux de chemin de fer.*)

The Canada Switch Manufacturing Company, Montreal, Quebec, Canada, assignee of Charles Hodgson, Canterbury Road, Kellburn County, London, England, 10th October, 1894; 6 years.

Claim.—1st. Apparatus for working railway signals, consisting of two links mounted on a pivot upon the rod for operating the semaphore arm, the links being normally separated from each other, but adapted to interlock when one of them is rotated, a predetermined distance towards the other, and independent means for rotating the links, such as a lever pivoted to each link, substantially as and for the purpose set forth. 2nd. In apparatus for working railway signals, the combination with the rod for operating the semaphore arm, of two links mounted in a slot in the rod upon a pivot thereon, the links being normally separated from each other, a shoulder upon each link in the path of the other link for causing the links to interlock when one of them is rotated a predetermined distance towards the other, and levers for rotating the links, one pivoted to each link, substantially as and for the purpose set forth. 3rd. In apparatus for working railway signals, the combination with the rod for operating the semaphore arm, of two links, whose upper portions are thinned down and overlap, mounted in a slot in the rod upon a pivot thereon, the shoulders G, G^1, on the links, the shoulder on one link being in the path of the end of the other link, the end being normally separated from the shoulder by a predetermined distance, means for limiting the rotation of the links, such as the stop pieces H, H^1, and levers for rotating the

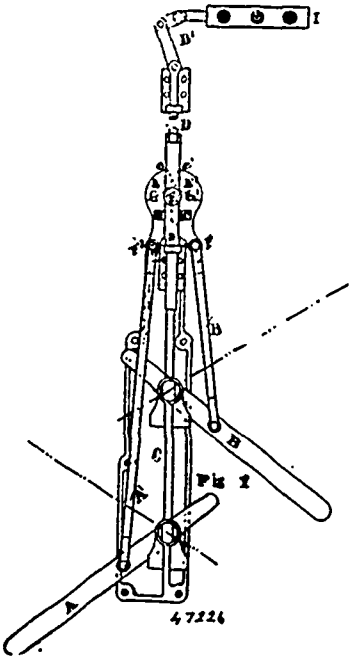


Fig. 2.

links, one pivoted to each, substantially as and for the purpose set forth.

No. 47,227. Device for Filling Joints of Metal Pipes. (*Appareil pour remplir les joints de tuyaux métalliques.*)

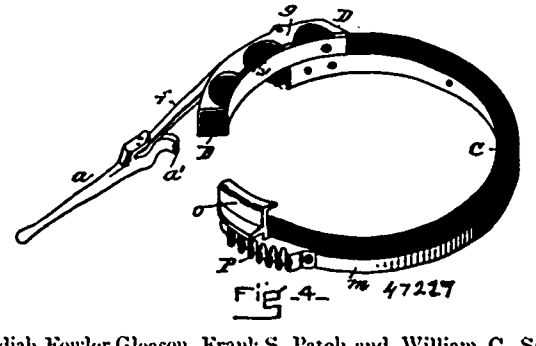


Fig. 4.

Jedediah Fowler Gleason, Frank S. Patch and William C. Spear, all of Quincy, Massachusetts, U.S.A., 10th October, 1894; 6 years.

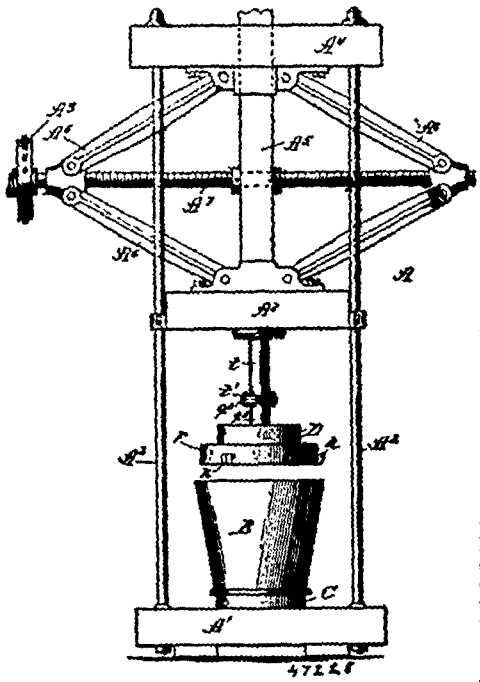
Claim. 1st. In a filling or sealing device for pipe joints, in combination, a flexible band or gasket of less circumference than the pipe upon which it is to be used, a clamping mechanism substantially of the kind described adapted to draw together the ends of said gasket, and a pour-hole section adapted to overlap the ends of said gasket, all as set forth. 2nd. In a pipe filling or sealing device for pipe joints, in combination, a band or gasket of any suitable material of less circumference than the pipe upon which it is to be used and adapted to clasp said pipe, a shorter section of band or gasket of sufficient length and adapted to overlap or close the ends of said gasket to form a pour-hole, and a clamping mechanism, substantially as described.

No. 47,228. Method of and Apparatus for Forming Compressed Wheel Rims. (*Méthode et appareil pour former les jantes des roues.*)

The Compress Wheel Company, assignee of Libanus McLouth Todd, all of Chicago, Illinois, U.S.A., 10th October, 1894; 6 years.

Claim.—1st. The method of forming compress wheel rims comprising flatwise abutting sections extending crosswise of the circumference of the rim, which consists in assembling the sections in proper annular relation, forcing them laterally through a gradually diminishing aperture, whereby they are compressed centripetally, and securing them in their compressed condition, substantially as described. 2nd. The method of forming compress wheel rims, comprising flatwise abutting sections extending crosswise of the circumference of the rim, which consists in assembling the rim sections in

proper annular relation in a form of comparatively large diameter, forcing them therefrom laterally through a gradually diminishing aperture, whereby they are compressed centripetally, into a form of comparatively small diameter, and finally providing annular shoulders on opposite sides of the rim, substantially as described. 3rd. In an apparatus for reducing the diameters of annular bodies by centripetal compression, the combination of a contracting-box formed with an aperture progressively diminishing toward one end, a follower comprising concentric telescoping sections, means for forcing the follower through the said aperture, and engaging means common to the follower sections operating to disengage sections as the follower is advanced through the contracting-box, substantially as



and for the purpose set forth. 4th. In an apparatus for reducing the diameters of annular bodies by centripetal compression, the combination of a contracting-box, formed with an aperture progressively diminishing toward one end, a follower formed with concentric telescoping annular sections, means for forcing the follower through the said aperture, and radially sliding bars on the follower, engaging the said sections and operating, as the follower is advanced through the contracting-box, to release the said sections consecutively, substantially as and for the purpose set forth. 5th. In an apparatus for reducing the diameter of annular bodies by centripetal compression, the combination of a contracting-box, formed with an aperture progressively diminishing toward one end, a sectional follower, comprising a central disc and a series of telescoping rings about the disc, means for forcing the follower through the said aperture, centripetally movable engaging means for the follower sections, operating as the follower advances through the contracting-box to release the sections consecutively, and section take-up means on the follower operating as the follower is withdrawn from the contracting-box to telescope and take-up the sections consecutively, substantially as and for the purpose set forth.

No. 47,229. School Slate. (*Ardoise.*)

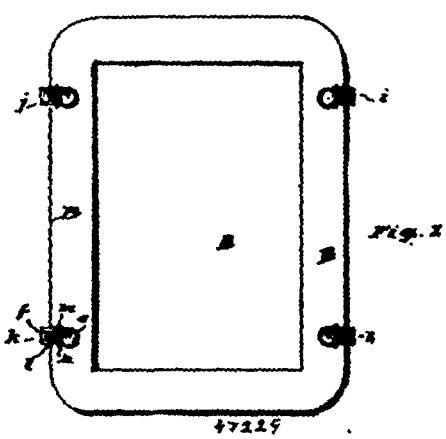


Fig. 2

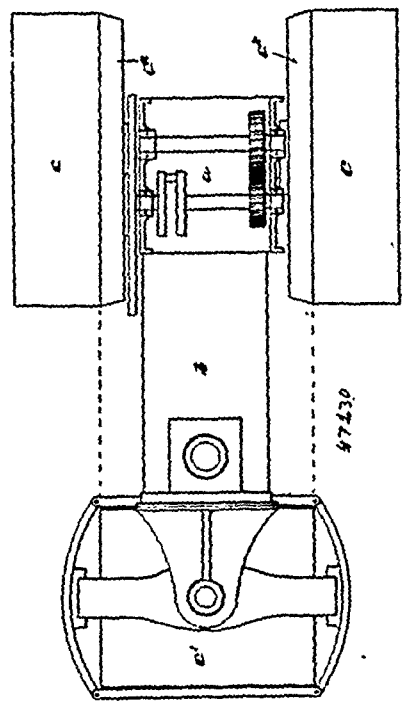
47229

James Paterson Cleveland, and John Joseph Banfield, both of Vancouver, British Columbia, Canada, 10th October, 1894; 6 years.

Claim.—The combination of school slates and frames A, B, C and D, and the noiseless slate attachment *e*, *f* and *g*, designed in oblong form with conical-shaped block or knob *e* and *g*, at each end, and secured firmly by double pointed tack 1, manufactured of rubber or other pliable substances, substantially as and for the purposes hereinbefore set forth.

No. 47,230. Steam Road Roller.

(*Rouleau à vapeur.*)



47230

The O. S. Kelly Company, assignee of Edward Thos. Wright, both of Springfield, Ohio, U.S.A., 10th October, 1894; 6 years.

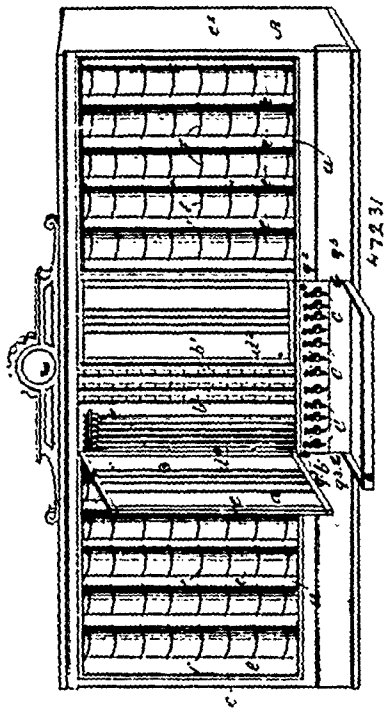
Claim.—1st. In a road roller, the combination with the main driving-wheels, and a steering-wheel or wheels, said driving-wheels being provided with extended portions adapted to overlap the tread of said steering-wheel or wheels, said extended portions being bevelled, substantially as and for the purpose specified. 2nd. In a road roller, front and rear wheels, as described, one set of said said wheels being adapted to overlap the tread of the other set, with the overlapping portions of one set bevelled, substantially as and for the purpose specified. 3rd. In a road roller, main supporting and driving-wheels, a steering-wheel or wheels, the tread of which occupies a space between said main wheels, said main wheels having a substantially uniform diameter as to those portions of which project beyond the tread of the steering-wheel or wheels, and a reduced and bevelled portion for overlapping the tread of said steering-wheel or wheels, substantially as and for the purpose specified.

No. 47,231. Apparatus for Dispensing Liquors and Registering the Quantity Sold. (*Appareil pour distribuer et enregistrer la quantité de liqueur vendue.*)

James Tomlinson, Granby, Quebec, Canada, 11th October, 1894; 6 years.

Claim.—1st. In apparatus for dispensing liquors, a reservoir for holding the liquor, a pipe connected with the reservoir and provided with a faucet, and an indicating tube communicating with the faucet on the resorvoir side thereof, substantially as specified. 2nd. In apparatus for dispensing liquor, the combination or a reservoir, a faucet, a discharge pipe connected with the reservoir, and a filter placed between the discharge pipe, and the faucet, and provided with a perforated partition having an imperforate part opposite the discharge pipe, substantially as specified. 3rd. In apparatus for dispensing liquors, the combination of a reservoir, a discharge pipe connected with the reservoir, a faucet communicating with the discharge pipe, a check valve placed between the faucet and the reservoir, and a tell-tale tube connected with the discharge pipe between the faucet and the check valve, substantially as specified. 4th. In apparatus for dispensing liquors, a series of reservoirs each provided with a discharge pipe and faucet, indicating tubes connected with the discharge tubes, a check valve placed in the discharge passages outside the indicating tubes, tell-tale tubes connected with the discharge passages between the check valve and the faucets, and a case enclosing the reservoirs, the indicating tubes, and the tell-tale tubes, substantially as specified. 5th. In apparatus for dispensing liquors, the combination, with a reservoir having a concave bottom, of a capped tube inserted in the bottom for receiving any sediment deposited by the liquor in the reservoir, substantially as specified. 6th. The combination of the reservoir *c*, the discharge pipe *o*, the check valve *x*, for closing the

discharge pipe, the tell-tale tube d^1, provided with a curved upper end and connected with the discharge outside the check valve, and the cup e^1, for receiving the liquor discharged by the tell-tale tube,



substantially as specified. 7th. The combination, with the liquor discharge pipe o, of the filter chamber B, provided with the curved partition r, having an imperforate portion opposite the pipe o, and provided with a perforated diaphragm t, on the discharge side, and a body of filtering material placed between the curved perforated partition r, and the perforated diaphragm t, substantially as specified. 8th. The combination, with the reservoirs c, and discharge pipe o, connected with the same, of indicating tubes D, connected with the discharge pipes and provided with scales c^2, tell-tale tubes d^1, connected with the discharge pipes, and cups e^1, for receiving the discharge of the tell-tale tubes d^1, substantially as specified.

No. 47,232. Roll Paper Holder and Cutter.

(*Porte-rouleau de papier.*)

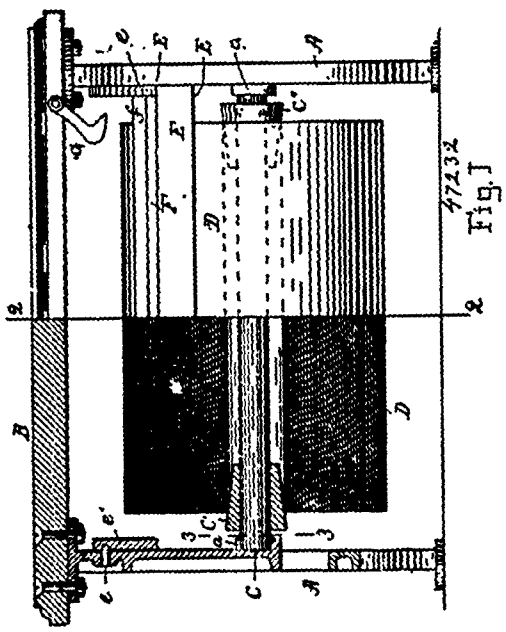


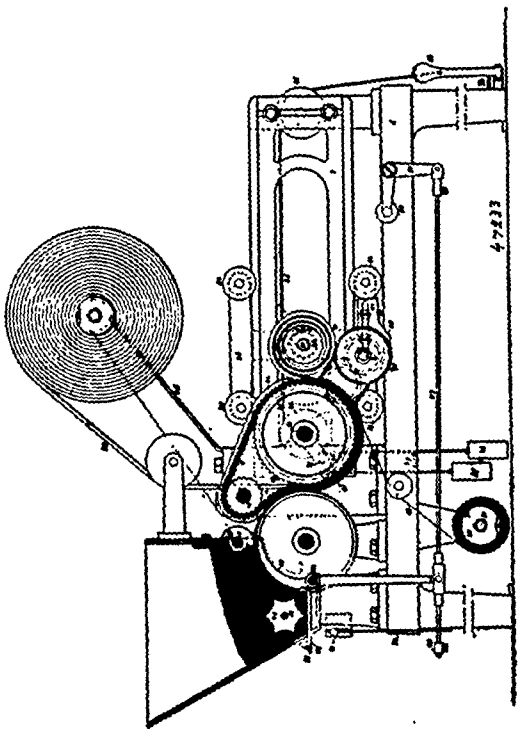
Fig. 1

Charles Henry Wright, Cambridge, Massachusetts, U.S.A., 11th October, 1894; 6 years.

Claim.—1st. The herein described roll paper holder and cutter, consisting of a frame or standards having U-shaped bearings on their interior surfaces and united by a brace or stay combined with a roll spindle adapted to hold the paper roll, and having cones arranged on said spindle for securing the paper roll in position substantially as and for the purpose set forth. 2nd. The herein described roll paper holder and cutter, consisting of a frame or standards adapted to hold the paper roll and its spindle combined with a weighted pivoted bar E, having levers pivoted to the standards and having a slot F, and secondary bar or cutter f, substantially as and for the purose set forth. 3rd. The herein described roll paper holder and cutter, consisting of a frame or standard, a detachable spindle pivoted in bearings therein and having a paper roll supported and held in place thereon between cones C^1, C^{11}, combined with a pivoted weighted bar E, adapted to rest by gravity against the paper roll and having a slot F, and secondary bar or cutter f, substantially as and for the purpose set forth.

No. 47,233. Match Splint Coiling Machine.

(*Machine à rouer les éclats pour allumettes.*)



George Rehfuss, John George Rehfuss, and Martin Oscar Rehfuss, all of Philadelphia, Pennsylvania, U.S.A., 11th October, 1894; 6 years.

Claim.—1st. A match splint coiling machine having a coiling hub, a driving device acting directly upon the outer convolution of the coil, a supplementary driver also acting upon said outer convolution of the coil and having a surface speed slightly in excess of that of the other driver, and yielding pressure devices for maintaining the coil in contact with the driving mechanism, substantially as specified. 2nd. A match splint coiling machine having a notched feeder, a hopper, a drum in said hopper for straightening the splints before they reach the notched feeder, and means for imparting a positive rising and falling movement, and a rotating movement to said drum, substantially as specified. 3rd. A match splint coiling machine having a notched feeder, a hopper, splint supporting fingers at the the bottom of the hopper, a drum in the hopper above said fingers, and means for reciprocating the fingers and drum and for rotating the latter, substantially as specified. 4th. A match splint coiling machine having a hopper, a drum therein, and a reciprocated frame carrying springs upon which the drum shaft is mounted so that the drum is free to yield when it meets with undue resistance, substantially as specified. 5th. A match splint coiling machine having a hopper, a drum therein, a reciprocated frame carrying the drum shaft, and a pawl and ratchet whereby as the drum shaft is raised and lowered, intermittent movements of rotation are imparted thereto, substantially as specified. 6th. A match splint coiling machine in which are combined a coiling drum mounted upon a movable carriage, a driving-wheel carried by a swinging frame and acting upon the outer convolution of the coil to rotate the same, and a chain connected to the carriage and having a projection to act upon a portion of the swinging frame structure and carry the driving-wheel out of contact with the outer convolution of the coil, substantially as specified. 7th. A match splint coiling machine having a coiling drum upon a

movable carriage, a notched feeder, a stop plate which, when lifted, prevents access of the splints to the notches in the feeder, a driving shaft having a clutch, a duplex cam upon the movable carriage, and means whereby as said carriage moves outward, said cam is caused to effect first the operation of the stop plate, and then the operation of the clutch, and the stoppage of the machine, substantially as specified.

No. 47,234. Filler Forming Mechanism for Cigarette Machines. (*Mécanisme d'alimentation pour machines à cigarettes.*)

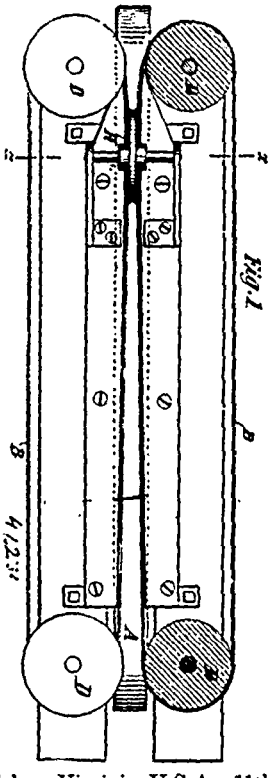


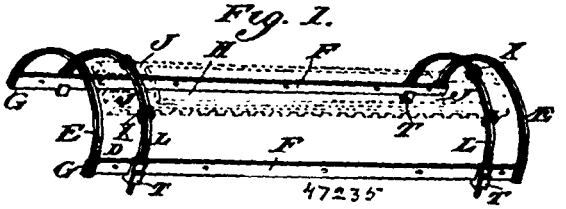
Fig. 1.

Kent H. Carper, Salem, Virginia, U.S.A., 11th October, 1894; 6 years.

Claim.—1st. In a filler-forming mechanism of a cigarette machine, the combination, substantially as set forth, of two endless converging side belts having their lower edges curved or offset and an endless bottom belt, whereby there is formed a tobacco feeding and compressing channel or trough with a rounded bottom. 2nd. In a filler-forming mechanism of a cigarette machine, the combination, substantially as set forth, of two endless converging side belts having their lower edges curved or offset and bevelled off to a thin edge to conform to the upper surface of the bottom belt, whereby there is formed a tobacco-feeding and compressing channel or trough with a rounded bottom and the lower edges of the side belts have a flat smooth contact with the upper surface of the bottom belt. 3rd. In a filler-forming mechanism of a cigarette machine, the combination, substantially as set forth, of two endless converging side belts having their lower edges curved or offset and without slits or notches, and pulleys of sufficient diameter to permit such belts to pass around them without causing their flanged or curved edges to break and an endless bottom belt, for the purpose described.

No. 47,235. Registering Attachment for Printing Machines, &c. (*Attache de régistre pour machine à imprimer, etc.*)

Fig. 1.



William Henry Reynell Toye, Philadelphia, Pennsylvania, U.S.A., 11th October, 1894; 6 years.

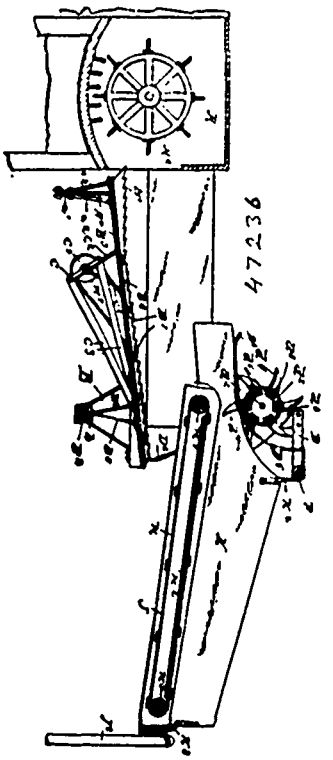
Claim.—1st. A registering attachment for a printing cylinder consisting of a frame, binder bars adjustable thereon, and strips carried by said binders and to which a printing plate is adapted to be secured, said parts being combined, substantially as described. 2nd. A registering attachment for a printing cylinder, consisting of blocks adapted to be attached to the walls of openings in said cylinder, bars adjustable in said blocks, and strips on said bars adapted to have the printing plates secured thereon, substantially as described. 3rd. A registering attachment for a printing cylinder, consisting of a chase, blocks fitting on said chase curved bars with end pieces movable in said blocks, and having projecting screw-threaded stems, nuts on said stems, strips movable on said bars, and clamps for securing said strips in place, said parts being combined, substantially as described. 4th. A registering attachment for a printing cylinder consisting of adjustable binder bars, a strip having transverse and longitudinal grooves on its bottom, and a bottom strip fitting in said longitudinal groove, said parts being combined, substantially as described. 5th. In a printing machine, the combination with a printing couple, of a flexible carrier composed of separate links, some of which are toothed and adapted to engage with gear on the printing couple, supports for said carrier, and means independent of the carrier for driving the printing couple, substantially as described. 6th. In a printing press, the combination with one or more printing couples consisting of type and impression cylinders, of a flexible carrier consisting of a number of blocks having sockets therein, a band or bands for connecting said blocks together, and supporting-wheels for the carrier having studs adapted to engage with the socket in the blocks, substantially as described. 7th. In a printing press, the combination with one or more printing couples consisting of type and impression cylinders, of a flexible carrier consisting of a number of blocks having sockets therein, a band or bands for connecting said blocks together, and polygonal sprocket-wheels having studs adapted to engage with the sockets in the blocks, substantially as described. 8th. In a printing machine, a flexible carrier for conveying sheets to be printed between a printing couple, said carrier consisting of a number of blocks abutted together end to end, a band or bands for holding said blocks together, and gripper mechanisms carried by certain of said blocks, substantially as described. 9th. In a printing machine, a flexible carrier for conveying sheets to be printed between a printing couple, said carrier consisting of a number of blocks abutted together end to end, and having intermeshing teeth S, a band or bands for holding said blocks together, and gripper mechanism carried by certain of said blocks, substantially as described. 10th. In a printing machine, a flexible carrier for conveying sheets to be printed between a printing couple, said carrier consisting of a number of blocks abutted together end to end, a band or bands for holding said blocks together, means for adjusting the length of said bands and gripper mechanisms carried by certain of said blocks, substantially as described. 11th. In a printing machine, a flexible carrier for conveying sheets to be printed between a printing couple, said carrier consisting of a number of blocks abutted together end to end, and having intermeshing teeth S, a band or bands for holding said blocks together, means for adjusting the length of said bands, and gripper mechanisms carried by certain of the blocks, substantially as described. 12th. In a printing press, the combination with a flexible carrier for conveying sheets between a printing couple, and consisting of a number of blocks having sockets thereon, a band or bands for connecting said blocks, of supports for the carrier having studs adapted to engage with the sockets in the blocks, substantially as described. 13th. In a printing press, the combination with a flexible carrier for conveying sheets between a printing couple, and consisting of a number of blocks having sockets therein, and a band or bands for connecting said blocks, of polygonal supports for the carrier having studs adapted to engage with the sockets in the blocks, substantially as described. 14th. In a flexible carrier for conveying sheets to be printed between a printing couple, a number of blocks abutted together, grooves in the sides of said blocks, a band or bands adapted to fit in the grooves and hold the blocks together, and gripper mechanisms carried by some of the blocks, as described. 15th. In a flexible carrier for conveying sheets to be printed between a printing couple, a number of blocks abutted together, grooves in the sides of said blocks, a band or bands adapted to fit in the grooves and hold the blocks together, nuts fitting on the end of the bands for adjusting their length, and gripper mechanisms carried by some of the sheets, as described. 16th. In a printing press, the combination, with type and impression cylinders constituting a printing couple, and means for driving the same, of a flexible carrier consisting of blocks abutted end to end, a band or bands for connecting said blocks, and gripper mechanisms carried by certain of the blocks and supports for said carrier journalled on the frame, as described. 17th. In a printing press, the combination, with type and impression cylinders constituting a printing couple and means for driving the same, of a flexible carrier consisting of blocks abutted end to end, an adjustable band or bands for connecting said blocks, and gripper mechanisms carried by certain of the blocks, and supports for said carrier journalled on the frame, substantially as described.

No. 47,236. Automatic Band Cutter and Feeder. (*Coupe-hart et alimentateur automatique.*)

Charles H. Edwards, Alta, Iowa, U.S.A., 11th October, 1894; 6 years.

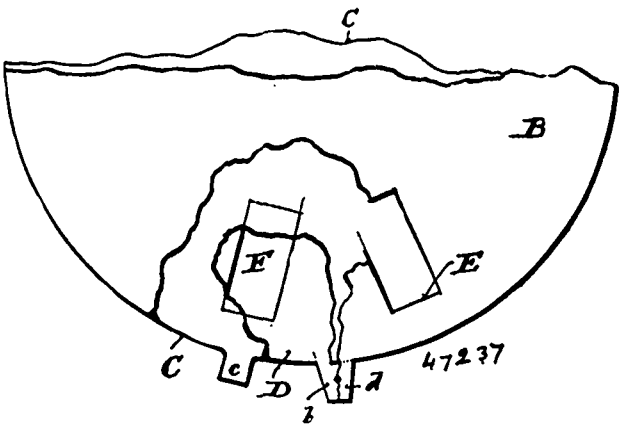
Claim.—1st. In a band cutter and feeder, the combination of a

frame permanently attached to the thrashing machine, a rotatable cylinder supported by said frame, knives fixed to the cylinder and adapted to sever the bands of sheaves of grain, means for advancing the grain from said cylinder towards the thrashing cylinder, and a



ronveyor for advancing sheaves of grain to the said rotatable cylinder, said means comprising suitable carrier mechanism, a frame in which it is arranged, the frame being adapted to pass between the said rotatable cylinder and the mechanism for advancing the grain to the thrashing cylinder, and when not in use to be moved forward between the said cylinder and feeding mechanism and rest upon the top of the thrashing machine and upon the frame for supporting the said rotatable cylinder, substantially as described. 2nd. In a band cutter and feeder, the combination of a frame A^3 permanently attached to a thrashing machine, uprights D at the outer end of said frame, a cylinder D^3 supported by said uprights, band-cutting knives d^4 fixed to the cylinder D^3, an endless carrier-frame composed of the parts H and H^2, a roller mounted at the outer end of the carrier-frame, a rotatable shaft H^4 extended transversely of the inner end of the carrier-frame and with its ends extended beyond the sides thereof, rollers H^4 secured to said shast, endless carriers passed over the rollers H^4, and over the rollers at the outer end of the frame, a sprocket-wheel H^5 secured to one end of the shaft H^6, whereby it may be rotated, the sides of the frame A^3 being formed with slots J^5, whereby to admit the ends of the shaft H^5, substantially as described. 3rd. In a band cutter and feeder, the combination of a fixed frame having a rotating band-cutter in its top portion, a carrier-frame pivotally and detachably connected with the said fixed frame in a plane below the rotating band-cutter, and in such manner that it can be moved rearwardly under the band-cutter, and a partition adapted to be detachably connected with the said fixed frame, and also with the movable frame, substantially as described. 4th. In a band-cutter and feeder, the combination of a frame having two endless carriers mounted thereon and parallel to each other, a frame having a rotating cutter mounted thereon so as to extend across said carrier and in a plane above the same, the frame having rearwardly-inclined open slots or bearings in its sides to admit the ends of a shaft or journals extending outwardly from the sides of the frame to which the carriers are attached so as to pivotally connect the said carrier-frame to the fixed frame, and also to allow longitudinal movement of the carrier-frame relative to the fixed frame, and a partition adapted to be detachably affixed to the said frames to separate the two parallel carriers, substantially as described. 5th. In a band cutter and feeder, a fixed frame adapted to support a rotating band-cutter at its top portion, the sides of the said fixed frame being provided with open slots J^3, and a carrier-frame having journals H^6, extending transversely and outwardly from its sides and adapted to enter and traverse said slots J^3, the journals being arranged and combined so that the carrier-frame may be raised and lowered at its front end and also moved longitudinally beneath the rotating band-cutter, substantially as described. 6th. In a band-cutter and feeder, a frame having rearwardly extending open slots or bearings located oppositely and formed in its sides, a rotating shaft adapted to have its ends arranged in and supported by said slots or bearings, a rotating band-cutter mounted across the top portion of said frame, and vibratory pans in the lower portion of the frame, a carrier frame to one end of which the aforesaid rotating shaft is secured, whereby the said carrier-frame is removably connected to the first-named frame, two rollers at the outer end of the carrier-frame, and endless carriers on said rotating shaft and rollers, a detachable partition between the two carriers, an adjustable support at one end of said carrier frame, and mechanism for operating the rotating band-cutter, the vibratory pans, and the endless carriers, substantially as described.

No. 47,237. Indexed Disc. (*Disque à index.*)



Arthur Jackson Wills, Milwaukee, Wisconsin, U.S.A., 11th October, 1894; 6 years.

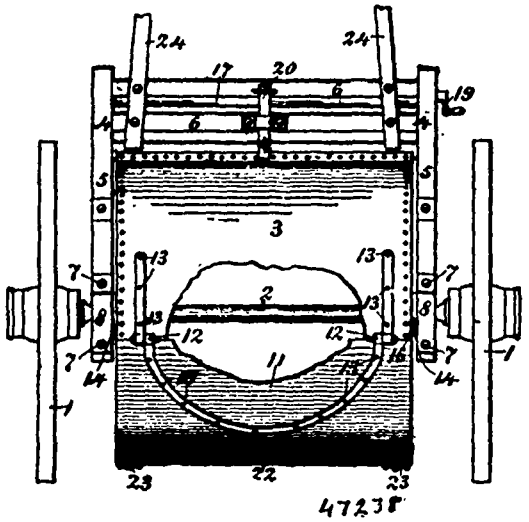
Claim.—1st. A series of discs, united by a pivot, one of said discs being movable thereon, and one or more of them stationary, the movable disc being provided with a projecting index or indicator, and with a series of inscriptions or designs arranged upon its face, and the superimposed stationary disc being provided with an opening therethrough, and a series of graduations or index marks, relatively arranged, whereby, when the index is brought in line with any particular graduation or index mark, the inscription or design on the movable disc thereby indicated will show through the opening in the said stationary disc, in combination with a handle, the said discs being supported between the bifurcated ends of the handle, and the disc pivot passing through the said bifurcated ends, the stationary disc or discs being provided each with an elongation or projection extending also between said bifurcated ends of the handle, and rigidly secured thereto. 2nd. A series of discs, united by a pivot, one of said discs being movable thereon, and one or more of them stationary, the movable disc being provided with a projecting index or indicator, and with a series of inscriptions or designs upon its face, and the superimposed stationary disc being provided with an opening therethrough and with a series of graduations or index marks, arranged relatively to said inscriptions or designs on the said movable disc, and a strip or strips secured to the said index projection, and off-setted at the inner end to embrace the edge of the said stationary disc or discs. 3rd. The herein described device, consisting of a suitable bifurcated handle, a series of discs superimposed one upon the other within the fork of the handle, and there united by a pivot, one or said discs being movable thereon, and provided with a series of inscriptions or designs upon its face and the other disc or discs being stationary, and provided with an opening for displaying one of said inscriptions or designs, and having index marks or graduations, and an indicator support projecting from the movable disc, and carrying an off-setted strip or strips secured thereto for embracing the stationary disc or discs, and terminating in an inwardly projecting index point or points.

No. 47,238. Cart. (*Charrette.*)

John Jones and Alexander Gillies, both of Toronto, Ontario, Canada, 11th October, 1894; 6 years.

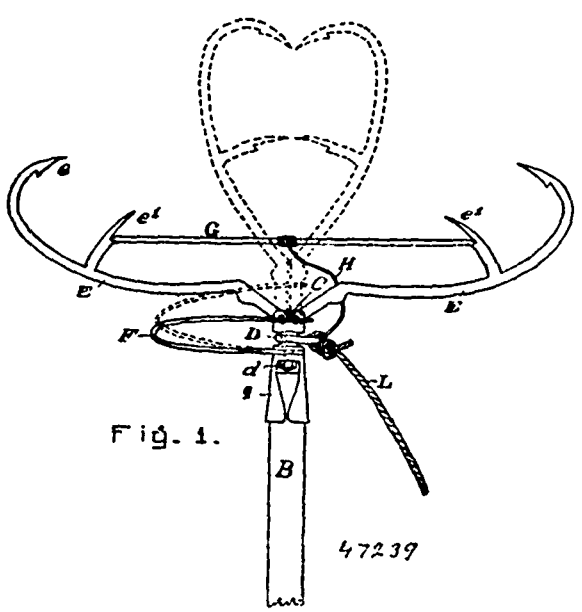
Claim.—1st. In a cart, the drum or box supported by its ends on an axle parallel with and eccentric to the axis of said drum, and having a lid hinged thereto, substantially as shown and described. 2nd. In a cart, the axle blocks, composed of two separable halves, having on each half a semi-cylindrical projection adapted to fit over the cart axle internally, and externally to form a cylinder when the said halves are secured together, substantially as described. 3rd. In a cart, the combination of the drum supported by its ends on an axle parallel with and eccentric to its axis, and having a lid hinged thereon and a bearing collar or ring on each end, with the axle blocks having a bearing on each to fit within said bearing rings, substantially as shown and described. 4th. In a cart, the combination of the drum, supported at its ends on an axle parallel with and eccentric to its axis and having a bearing collar or ring in each end, the axle-blocks having a bearing on each to fit within the said

bearing collars, and the frame secured to said axle blocks, and having a bolt at the front to secure the drum, substantially as shown and described. 5th. In a cart, the combination of the drum supported at its ends on an axle parallel with and eccentric to its axis, and having a bearing collar in each end, the axle blocks having a bearing on each to fit within said bearing collars and vibrate therein, the frame secured to said axle blocks and having a bolt at the front to secure said drum, and the windlass, supported by said frame and connected to operate the drum, and having a crank by which to operate it, substantially as shown and described. 6th. In a cart, the combination of the drum supported by its ends on an axle parallel with and eccentric to the axis of said drum, and the handle or lever secured to said drum to limit the vibration when said drum is being discharged, substantially as shown and described.



No. 47,239. Fish and Seal Spear.

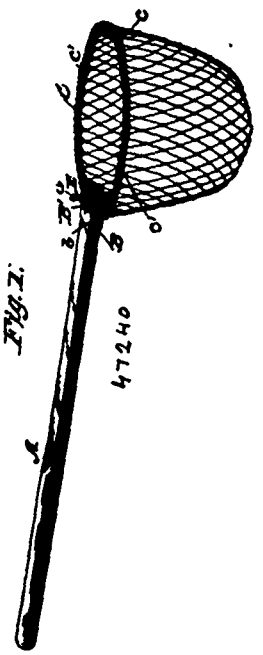
(*Harpon pour poissons et phoques.*)



Homer F. Norton, Seattle, Washington, U.S.A., 11th October, 1894; 6 years.

Claim.—1st. In an animal catching device, the combination with the oppositely pivoted arms having projecting, retaining points upon their inner surface, of a spring adapted to draw and retain the arms together, and a trigger extending across the opening of the arms to hold them spread, substantially as shown and described. 2nd. In an animal catching device, the combination with a socket piece for the insertion of a pole, two arms oppositely pivoted thereto, and having retaining spurs or sharp points upon their inner surface, of a spring adapted to close and hold the arms together, and a trigger extending across the opening of the arms to hold them spread, substantially as shown and described. 3rd. In an animal catching device, the combination with a socket piece for the insertion of a pole, two arms oppositely pivoted thereto and having retaining spurs or sharp points upon their inner surfaces, of a spring having one end surrounding the pivoted ends of the arms and adapted to close and hold the arms together, and a trigger extending across the opening of the arms to hold them spread, substantially as shown and described. 4th. In an animal catching device, the combination with a socket piece for the insertion of a pole, arms oppositely thereto and having spurs or sharp points upon their inner surfaces, of a flat spring having one end engaging the outer surfaces of the pivoted arms to close and retain them, and a trigger extending across the opening of the arms, substantially as shown and described. 5th. In an animal catching device, the combination with the oppositely pivoted arms, having spurs or sharp points upon their inner surface, and a spring to draw and retain the arms together, of a trigger consisting of a bar which extends across the opening of the arms, and retaining notches therefor upon the arms, substantially as shown and described. 6th. In an animal catching device, the combination of a socket piece for the insertion of a pole, two arms oppositely pivoted thereto and having recurved spurs or points upon their inner surfaces, and a trigger extending between and engaging the outer ends of the spread arm, and a spring engaging said arms to close them, substantially as shown and described.

No. 47,240. Landing Net. (*Rets d'atterrisage.*)



Allan Holmes, Dunedin, New Zealand, 11th October, 1894; 6 years.

Claim.—1st. A landing net, comprising a handle or pole member, and a collapsible net frame pivoted to the handle, and adapted to swing horizontally rearward on the handle, substantially as shown and described. 2nd. A landing net, comprising a handle member, and a net frame formed of side sections pivotally joined to close inward, the ends of such side sections being pivotally connected to the handle to swing horizontally rearward thereon, as and for the purposes specified. 3rd. A landing net, comprising a handle member and a net frame formed of side sections joined at one end to each other, and at the other pivotally joined to the handle to swing horizontally thereon, said side sections having in turn jointed members whereby such side sections are adapted to be folded inward all arranged, substantially as shown and described. 4th. A landing net, comprising a handle member and a collapsible net frame having its ends pivotally connected thereto, and one of such ends held for vertical movement on its pivot, whereby such end is adapted to be set to clear and fold over the other end when the said frame is closed in and swung rearward onto the handle, substantially as and for the purposes set forth. 5th. A landing net, comprising a handle member, a collapsible net frame pivoted to swing horizontally rearward thereon, and a lock or detent on the handle adapted to engage such arms when extended and hold them locked to such position, substantially as shown and described. 6th. A landing net, comprising a handle member having at its end a centrally projected lug having parallel sides and pivots projected up from such end, one at each side of the lug, a collapsible net frame having its free ends journalled on such pivots, one of such ends being held for vertical movement on its pivot, said ends having flat portions adapted to engage the side faces of the said lug when the said frame is extended, as and for the purposes described. 7th. An improved landing net,

comprising a handle member having a central lug having parallel vertical sides, and pivot pins one at each side, one of such pins being extended vertically and having a removable nut or stop member, a collapsible or jointed net frame having its ends journalled on the said pivots to swing horizontally on the handle and having straight portions adapted to engage the straight faces of the centre lug when such frame is extended, as and for the purposes set forth. 8th. A landing net comprising a handle having a ferrule provided with a central lock lug having parallel side faces and an angle like rear face, and pivots projected upward one at each side of the lug, and a collapsible net frame having its ends pivoted on such pivots one of such ends held for vertical adjustment on its pivot, said ends having straight portions adapted to engage the parallel sides of the lug, and one of such sections engaging the angle face of the lug when the net frame is collapsed and swung rearward, all substantially as shown and for the purposes described. 9th. As an improvement in landing nets, the combination, with the handle having a ferrule member provided with a central longitudinally extended locking lug, and pivot pins projected up one at each side thereof, one of such pins being extended vertically and provided with a removable cap, of the net frame formed of hinged sections arranged to close inward, the free ends thereof being journalled on such pins, all arranged substantially as shown and described.

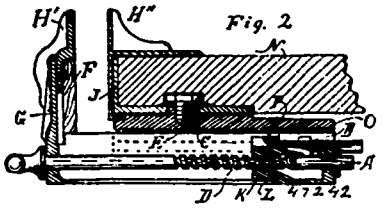
No. 47,241. Perforator. (*Perforateur.*)

Fig 1

Joseph T. Scott, Coeur d'Alene, Idaho, U.S.A., 11th October, 1894; 6 years.

Claim.—The herein described perforator, consisting of the elongated case 10, having an open upper side, and recessed end 11, the slide bar 16 in the bottom of the case and provided with the cams 15, the spring 21 between the end of the case and one end of the slide bar, the angular lever 24, 26, 27, pivoted at 25 to the top of the recessed end of the case, the perforator bar 12, above the slide bar and provided with the brads 13 on its upper surface, and with the cams 14 on its lower surface, and the springs 17 secured to the case and to the perforator-bar for drawing the said bar down into the case below the top thereof, as specified.

No. 47,242. Vise. (*Etau.*)

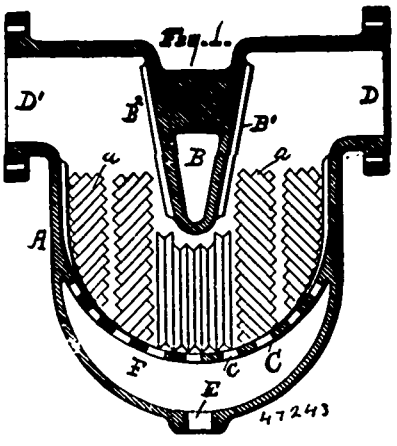


James Riley Denison, Grand Rapids, Michigan, U.S.A., 11th October, 1894; 6 years.

Claim.—1st. A bench vise consisting of a laterally swinging jaw G, a metallic frame work J, having two right angled perpendicular sides and a bed, a bench screw and a swivel supported by the bed of said frame work, said screw moving with the laterally swinging jaw, substantially as described. 2nd. A bench vise provided with a swinging jaw, a metallic frame work having two right angled perpendicular sides, and a bed adapted to support the swinging jaw, and its adjunctive mechanism, a bench screw and a swivel supported upon the bed of the said frame work, and having no projection or bolt connection directly with the bench, said jaw adapted for use at either the side or the end of the bench, substantially as described. 3rd. The combination of the frame having two perpendicular sides at right angles to each other, a bed, a frame for supporting the swinging jaw, having an upward projection integral therewith, passing through the bed of the frame, a screw and washer for attaching the same to the bed of the frame, and entire swinging mechanism supported from the bed of the metallic frame or stationary jaws, substantially as and for the purpose described. 4th. In a quick action vise, the combination of a bench screw, a nut, a swivelled ratchet-bar located above the bench screw, an oscillating dog supported by said nut, and having its forward end provided with a toothed part, a projection upon the bench screw adapted to engage with the rear projection of the dog and to disconnect the same from engagement with the ratchet-bar when placed in proper position and adapted to move out of place, so as not to opperate or disconnect said dog, substantially as described. 5th. The combination, with a metallic frame work J, adapted to be secured to a bench and provided with a bed, of a ratchet bar O, swivelled to the bed, a laterally swinging jaw G, provided with a screw D, having a projection A, a nut K, engaging the screw, and a pivoted dog having teeth P, said ratchet-bar, jaw, screw, nut and pall, adapted to swing together for the operation of the jaw at different sides of the metallic frame work, substantially as described. 6th. The combination, with a bench vise as described, of detachable upwardly projecting jaws H^1 and H^2, substantially as described and for the purpose set forth.

No. 47,243. Separator for Oil and Water.

(*Séparateur pour l'huile et l'eau.*)

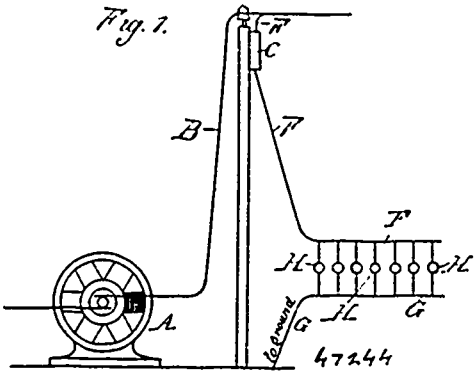


Eugene Austin, Detroit, Michigan, U.S.A., 11th October, 1894; 6 years.

Claim.—1st. In a separator, a deflecting steam passage, a false bottom at the turn of the passage, said false bottom provided with openings, corrugations on the walls of the passage leading to the openings and a chamber below the false bottom, substantially as described. 2nd. In a separator, a deflecting steam passage, a false bottom at the turn of the passage, said false bottom provided with elongated cross openings, corrugations on the walls of the passage leading to the openings and a chamber below the false bottom, substantially as described.

No. 47,244. System of Electrical Distribution.

(*Système de distribution électrique.*)

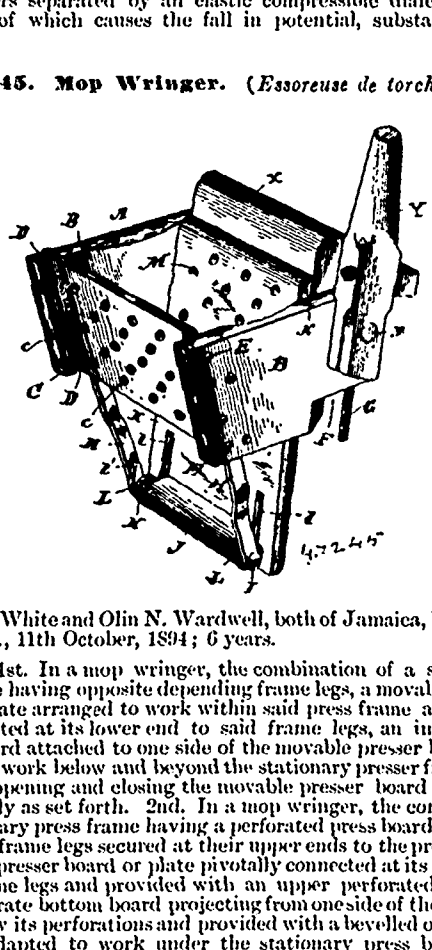


James Finney McElroy, Albany, New York, U.S.A., 11th October, 1894; 6 years.

Claim.—1st. The method of transformation and utilization of electrical energy, and consisting in charging one member of a condenser with electricity of a certain tension and volume and simultaneously therewith, and thereby charging the other member of the said condenser with electricity of different tension and volume, and then discharging the latter and passing the transformed electricity to one or more translating devices, substantially as described. 2nd. The method of transformation and utilization of electrical energy, consisting in charging one member of a condenser with electricity of high tension and small volume and simultaneously therewith and thereby charging the other member of said condenser with electricity of low tension and great volume, and then discharging the latter and passing the transformed electricity through one or more translating devices, substantially as described. 3rd. In a system of distribution and convertion of electrical energy, the combination of an alternating current generator, a main extending from one of the poles thereof, an electrostatic converter, consisting of two members

separated by a dialectric, a connection between the main and one of the members of said converter, and consumption circuit connecting the other member with the ground, substantially as described. 4th. In a system of electrical distribution and conversion of electrical energy, an electrostatic converter, having its members separated by a dialectric, the thickness of which causes the fall in potential, substantially as described. 5th. In a system of electrical distribution and conversion of electrical energy, an electrostatic converter, having its members separated by an elastic compressible dialectric, the thickness of which causes the fall in potential, substantially as described.

No. 47,245. Mop Wringer. (*Essoreuse de torchon.*)



Cassius A. White and Olin N. Wardwell, both of Jamaica, Vermont, U.S.A., 11th October, 1894; 6 years.

Claim.—1st. In a mop wringer, the combination of a stationary press frame having opposite depending frame legs, a movable presser board or plate arranged to work within said press frame and pivotally connected at its lower end to said frame legs, an imperforate bottom board attached to one side of the movable presser board and adapted to work below and beyond the stationary presser frame, and means for opening and closing the movable presser board or plate, substantially as set forth. 2nd. In a mop wringer, the combination of a stationary press frame having a perforated press board, opposite depending frame legs secured at their upper ends to the press frame, a movable presser board or plate pivotally connected at its lower end to said frame legs and provided with an upper perforated portion, an imperforate bottom board projecting from one side of the movable board below its perforations and provided with a bevelled or inclined top face adapted to work under the stationary press board, and means for opening and closing the movable presser board or plate, substantially as set forth. 3rd. In a wringer, a stationary press frame consisting of opposite imperforate side walls and a perforated stationary press board connecting one end of said side walls, opposite depending frame legs attached at their upper ends to the frame side walls and provided with lower perforated ends and holding studs projected from their inner sides near such ends, a movable perforated presser board working within the press frame and provided at its lower end and at one side with a turning pivot block having reduced extremities, pivot screws passing through the lower perforated ends of the frame legs into the pivot blocks, opening springs coiled on the reduced extremities of the pivot block, and having their extremities disposed at one side of said holding studs and against the movable presser board, respectively, and means for moving the movable presser board against the tension of the opening springs, substantially as set forth. 4th. In a mop wringer, the combination, with a stationary press frame and the movable spring opened presser board working within said frame, of a transversely arranged operating shaft journalled in the press frame, and jointed lever connections connected with said shaft and the outer side of the movable presser board, substantially as set forth. 5th. In a mop-wringer, the combination, with the stationary press frame and the movable spring opened presser board working within said frame, of a transversely arranged rock shaft journalled in the press frame, power multiplying lever connections between said shaft and the movable presser board, a handle lever connected to one end of the shaft, and spaced stops arranged at one side of the press frame to limit the movement of the handle lever, substantially as set forth. 6th. In a mop-wringer, the combination, with the stationary press frame having opposite side walls, and the movable spring opened presser board or plate mounted within said frame, an operating rock shaft journalled in said side walls and provided at one end with a retaining flange outside of one of the side walls, and at its opposite end with a right angularly disposed tapered pin, lever connections between the shaft and the movable board, a handle lever provided in its lower end with a longitudinal kerf and a tapered socket removably receiving the pin of said shaft, a clamping bolt passed through the lower end of the handle lever below the shaft, and a stop plate attached to one side of the press frame and having stop flanges at its extremities, substantially as set forth. 7th. In a mop-wringer, the combination, with the stationary press frame and the movable spring opened presser board working within the frame, of a transversely arranged operating shaft journalled in the press frame and provided with oppositely disposed rock arms and projected shaft lugs at the inner ends of said rock arms, an ear plate attached transversely to one side of the movable presser board, bell-crank lever arms pivotally connected at their inner ends to opposite ends of said ear plate, and connecting links pivotally connected at one end to the outer ends of said bell-crank lever arms and at their other ends to the outer extremities of said rock arms, substantially as set forth.

No. 47,246. Type-Writer. (*Clavigraphe.*)

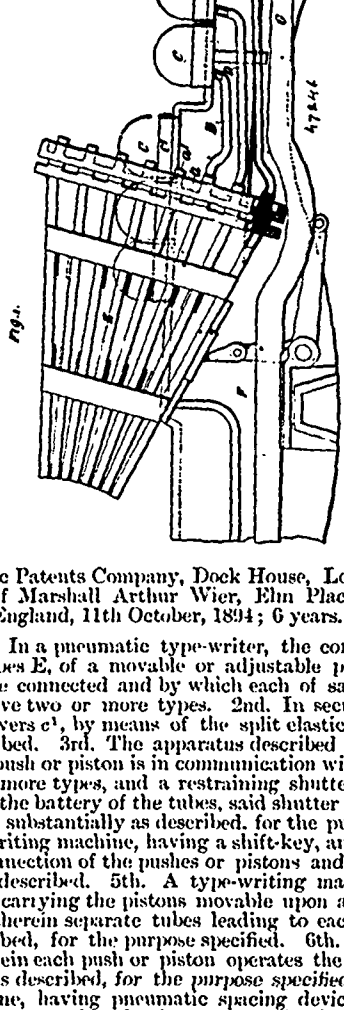


Fig. 1.

The Pneumatic Patents Company, Dock House, London, England, assignee of Marshall Arthur Wier, Elm Place, Kingston on Thames, England, 11th October, 1894; 6 years.

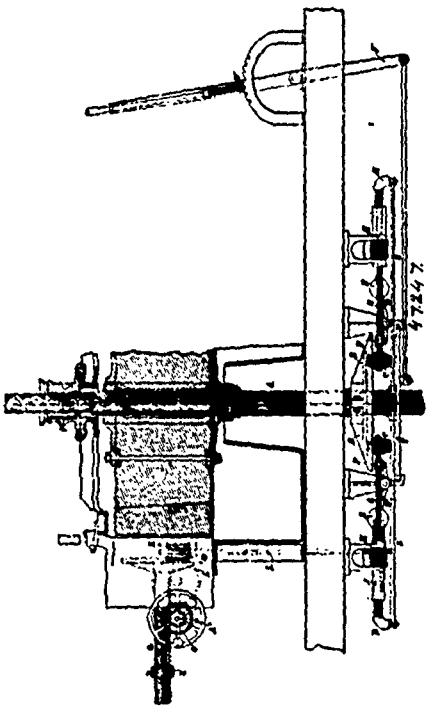
Claim.—1st. In a pneumatic type-writer, the combination, with the battery tubes E, of a movable or adjustable plate *a*, to which the tubes D are connected and by which each of said tubes D, can be made to serve two or more types. 2nd. In securing the pushes C, to the receivers c^1, by means of the split elastic ring c, substantially as described. 3rd. The apparatus described wherein the air-space of each push or piston is in communication with the air chambers of two or more types, and a restraining shutter at the front of the mouths of the battery of the tubes, said shutter being controlled by a shift-key, substantially as described, for the purpose specified. 4th. A type-writing machine, having a shift-key, and a core or plug to vary the connection of the pushes or pistons and the types, substantially as described. 5th. A type-writing machine, having a plate or board carrying the pistons movable upon another plate or board having therein separate tubes leading to each type, substantially as described, for the purpose specified. 6th. A type-writing machine, wherein each push or piston operates the spacing device, *substantially* as described, *for the purpose specified*. 7th. A type-writing machine, having pneumatic spacing devices consisting of diaphragms H, operated by the air compressed by the pushes, substantially as described, for the purpose specified. 8th. The vacuum cylinder J, and piston J^1, returning the carriage, substantially as described. 9th. The combination of mechanism, whereby the type rods are caused to imprint a character by forcing the paper, from the rear towards an inking ribbon in front thereof, substantially as described.

No. 47,247. Wood Grinder. (*Moulin à broyer le bois.*)

Fredrick Hiorth, Christiania, Norway, 12th October, 1894; 6 years.

Claim.—1st. In a feeding device for wood grinders, the combination with means for transmitting continuously the rotary motion of the grinder-shaft to the press-rods of the grinding apparatus of a lever for varying the degree of feeding during the working of the

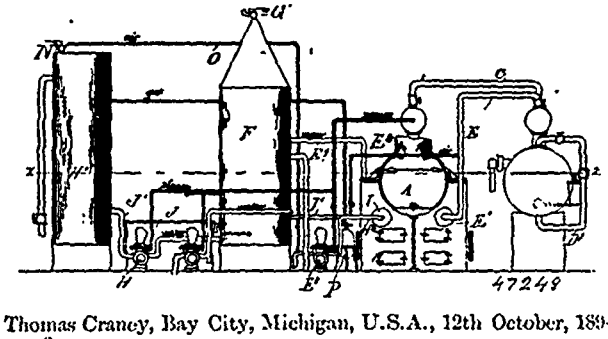
grinder, substantially as specified. 2nd. In a feeding device for wood grinders, the combination with a friction disc secured on the grinder-shaft or on a shaft in gear with the same said disc having a plane friction surface in contact with one or more cylindrical friction-



wheels, of shafts carrying these rollers, said shafts being longitudinally movable in their bearings, so that the friction rollers may be brought nearer to or away from the centre of the friction disc, substantially as specified. 3rd. In a feeding device for wood grinders, the combination with a conical belt-drum on the grinder-shaft or on a shaft in gear with the same of a conical belt-drum on another shaft and means substantially as described, for shifting the belt of the two drums. 4th. In a feeding device for wood grinders, the combination with a wheel secured to the grinder-shaft or a shaft in gear with the same, said wheel having a number of tooth-rings on its plane surface, of a shaft carrying a tooth-wheel that may be brought in gear with any one of the said teeth-rings, substantially as specified. 5th. In a feeding device for wood grinders, the combination with the press-rods and means for feeding the same continuously towards the grinding-stone, of a projection on the said rod, and a lever connected with a coupling clutch, the projection pressing on the lever when the press-rod approaches its innermost position, and thereby disengages the press-rod from the means for driving it towards the grinding-stone.

No. 47,248. Process of Purifying Water.

(*Procédé pour purifier l'eau.*)

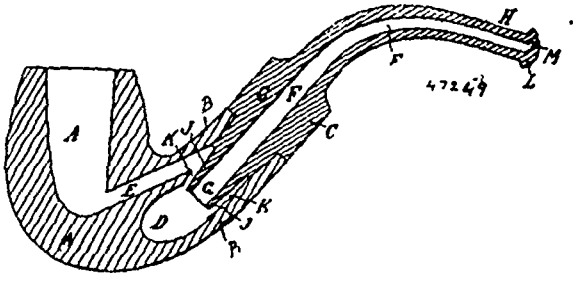


Thomas Craney, Bay City, Michigan, U.S.A., 12th October, 1894; 6 years.

Claim.—1st. The herein described process of purifying water, which consists in first distilling it, second in mixing the vapour with air, third in freeing the aqueous vapour from the air and lighter gases, and finally in condensing the aqueous vapour, substantially as described. 2nd. The herein described process of purifying water, which consist in first distilling it, second in commingling the vapour with air, third in super-heating the commingled vapours, fourth in separating the aqueous vapours from the air and lighter gases and finally condensing the aqueous vapours. 3rd. The herein described process of purifying water which consists in first subjecting it to a double distillation, second in mixing air with the vapour of the second distillation, and third in separating the air and gases from the vapour and finally condensing the vapour. 4th. The herein described process of purifying water, which consists in first distilling it, second in commingling the distilled vapour with air, third in super-heating the commingling vapours, fourth in separating the aqueous vapours, from the air and lighter gases, fifth in condensing the aqueous vapours and finally in aerating the condensation by commingling it with sterilized air and discharging it in a spray into a condenser. 5th. The herein described process of purifying and carbonating water which consists in first distilling the water, second in freeing it from its gaseous impurities, and third in aerating and carbonating it by mixing air and carbonic acid gas with the condensed fluid and discharging it in a spray into a condenser under pressure, substantially as described. 6th. The herein described process of purifying and carbonating water, which consists in first distilling the water, second in freeing it from gaseous impurities and third in aerating and carbonating it by charging it with sterilized air and carbonic acid gas. 7th. The herein described process of purifying and aerating water, which consists in first freeing it from its solid and gaseous impurities and second in aerating it by commingling it with air and discharging it in a spray into the condenser.

No. 47,249. Tobacco Pipe and Mouthpiece.

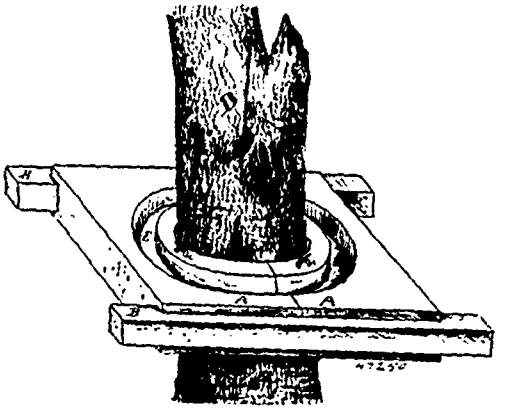
(*Pipe et ambre.*)



Charles Peterson, Dublin, Ireland, 12th October, 1894; 6 years.

Claim.—1st. In a tobacco smoking pipe, cigar-holder or the like, a mouthpiece formed at its lip, with an upwardly extending bore M, which bore M, is either tapered or of the same diameter throughout, and is formed at an angle to the portion of the bore with which it communicates, for the purposes and substantially as described and illustrated. 2nd. In a tobacco smoking pipe, the combination of a bowl A, formed or provided with a stem B, having a reservoir D, and a passage for the smoke as at E, the outer end of said reservoir D, being adapted to have fixed to it in any suitable manner a mouthpiece C, having a bore E, which is larger at the end G, which enters the reservoir D, than at the opposite end H, the reduction in the size of the said bore being either gradual, as shown in figure 1, or abrupt, as shown in figure 2, an extending or projecting portion J, of the mouthpiece passing the channel E, and an upwardly extending bore being formed at an angle to the portion of the bore F, with which it communicates, all for the purposes and substantially as described and illustrated.

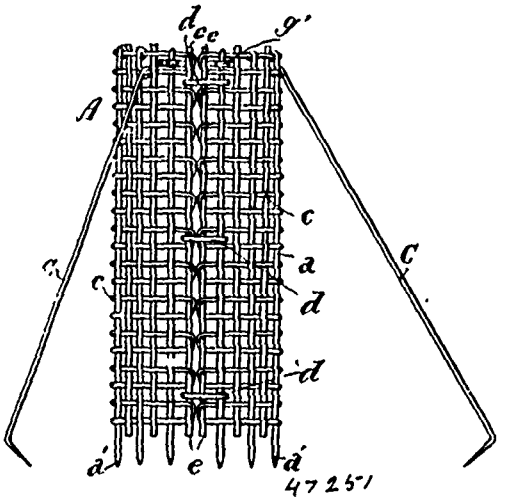
No. 47,250. Device for Protecting Trees Against Creeping Insects. (*Appareil pour protéger les arbres contres les insectes grimpants.*)



Casper Feener, West Northfield, Nova Scotia, Canada, 12th October, 1894; 6 years.

Claim.—The combination of the parts A, A, with B, B, containing the groove E, E, for holding a substance obnoxious to insects, substantially as and for the purpose hereinbefore set forth.

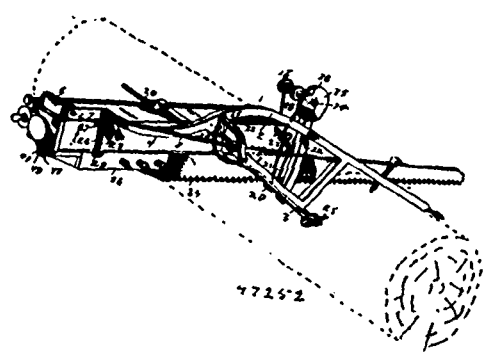
No. 47,251. Tree Protector. (*Protecteur pour arbres.*)



James Mortimer Crews, Arlington, Tennessee, U.S.A., 12th October, 1894, 6 years.

Claim.—A tree protector, consisting of a flexible cylindrical guard of woven wire, having vertical free edges and means for securing the same together, and a yoke for embracing the trunk of the tree to keep it centred with respect to the guard, said yoke consisting of a wire doubled upon itself at the centre to form two horizontal spring-arms united by the bend *f*, the free ends of said arms being attached respectively to the free edges of the guard, and the bend *f*, being connected to the said guard at a point diametrically opposite said vertical free edges, said spring arms having oppositely disposed semi-circular bends, g^2, whereby when the guard is closed about a tree the said semi-circular bends will embrace the trunk of said tree, substantially as described.

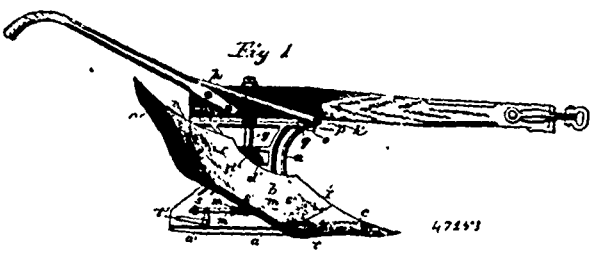
No. 47,252. Cross-cut Saw. (*Scie de travers.*)



John B. Kelly, Portland, Oregon, U.S.A., 12th October, 1894; 6 years.

Claim.—1st. The combination, with a cross-cut saw, of the supporting frame comprising a pivoted supporting arm provided with a retaining peg, and a dog pivotally connected at one end to a cross-bar fulcrumed to said supporting arm, substantially as specified. 2nd. The combination, with a longitudinally slotted cylinder, and a piston arranged therein and provided with an attaching arm projecting through the slot in the cylinder, of the flexible strap arranged within the cylinder to cover said slot and passing through a guide in the piston, the saw-head secured to said attaching arm and carrying the saw, and valve mechanism for operating the piston, substantially as specified. 3rd. The combination, with the cylinder, the piston, the saw-head carrying the saw, and attached to said piston, and the valve mechanism for operating the said parts, of the supporting frame loosely connected with said cylinder by a rock-shaft, and spring-actuated crank, substantially as specified. 4th. The combination, with the cylinder and the steam actuated saw-head mounted upon said cylinder, of the rock-shaft mounted in a bearing at one end of the cylinder and provided with a crank arm, the supporting frame fulcrumed upon said crank arm, and the segmental guide carried by the supporting frame and engaging the front end of the cylinder, and carrying means to adjust the cylinder with relation to the supporting frame, substantially as specified 5th. The combination, with the cylinder and steam actuated saw-head, of the supporting frame, the rock-shaft mounted in a bearing at the rear end of the cylinder and carrying a crank arm, a guide pin connected to said crank arm and operating in a guide eye on the cylinder and provided with a spring, the segmental guide carried by said supporting frame and operating in a guide upon the front end of the cylinder, and a windlass carrying an endless belt which is connected with the cylinder, substantially as specified. 6th. The combination, with the cylinder and steam actuated saw-head, of the rock-shaft mounted upon said cylinder and carrying a crank arm, the free end of which is connected to the cylinder by a spring-actuated guide-pin, the supporting arm connected to the free end of said crank arm, and an adjusting windlass carried by said arm and connected by a belt to the front end of the cylinder, substantially as specified, 7th. The combination, with a cylinder provided with a longitudinal slot and communicating guide groove, the piston carrying an attaching arm which projects through said slot and groove, means for operating said piston, and a supporting frame to which said cylinder is pivotally connected, of the saw-head connected to the projecting end of the attaching arm, the saw carried by said saw-head, and the guide and guide-roller attached to the front end of the cylinder to guide and receive the upward thrust of the saw, substantially as specified.

No. 47,253. Plough. (*Charrue.*)

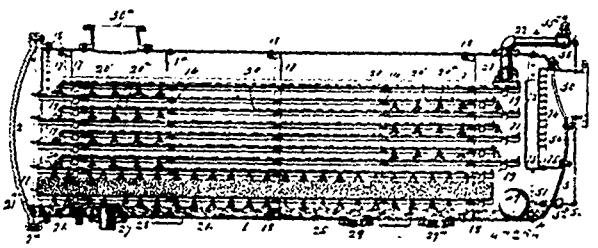


George W. Stow, Binghamton, New York, U.S.A., 12th October, 1894; 6 years.

Claim.—1st. In a reversible plough, the combination of a body-portion or standard, a revoluble plough-beam mounted on the standard, a vertically extending bolt journalled revolubly in the standard and positively connected at its upper end to the plough-beam, a double mould-board pivotally mounted on the standard and geared with the vertically extending bolt, whereby upon revolving the plough-beam the disposition of the mould-board will be changed, a longitudinally movable spring-pressed bar arranged horizontally on the standard and having bevelled ends, eyes or keepers formed on the under side of the mould-board and adapted to alternately receive the bevelled ends of the horizontal bar, and thereby lock the mould-board in position, and a foot-lever fulcrumed to the standard, and having one arm connected to the bar whereby the bar may be retracted to disengage the keeper and release the mould-board, substantially as described. 2nd. In a reversible plough, the combination of a standard, a reversible double mould-board pivoted thereto, a longitudinally movable spring-pressed bar arranged horizontally on the standard, eyes or keepers on the mould-board adapted to receive alternately the ends of the horizontal bar whereby the mould-board is locked in position, and a foot-lever fulcrumed to the standard and having one arm connected to the bar whereby the said bar may be retracted to disengage the eye or keeper and thus release the mould-board, substantially as described.

No. 47,254. Feed Water Heater and Purifier.

(*Réchauffeur et épurateur de l'eau d'alimentation,*)



Edward G. T. Colles, Chicago, Illinois, U.S.A., 12th October, 1894; 6 years.

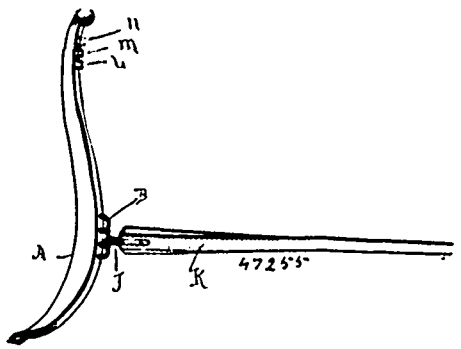
Claim.—1st. A feed-water heater and purifier having in combination a shell, pans adapted to fit within said shell, brackets secured within said shell and upon which said pans have sliding support, and guides secured to said pans for preventing their movement transversely, substantially as set forth. 2nd. A feed-water heater and purifier having in combination, a shell, pans adapted to fit within said shell, shelf-like projections secured within said shell and projecting beneath said pans, anti-friction rollers secured to said projections and serving to hold the pans aloof therefrom, and guides for holding the pans against transverse movement, substantially as set forth. 3rd. A feed-water heater and purifier having in combination, a shell, the pans adapted to fit within said shell, angle

irons secured within said shell and having their flanges arranged in upright and horizontal positions respectively, and anti-friction rollers secured to and projecting partly above and partly below said lateral flanges for supporting the pans over and upon said lateral flanges, substantially as set forth. 4th. A feed-water heater and purifier having in combination a shell, brackets secured within said shell, the sliding pans, and anti-friction rollers secured at intervals to said brackets and supporting said pans, substantially as set forth. 5th. A feed-water heater and purifier having in combination a shell, a number of removable pans supported in said shell, and ribs extending entirely across said pans transversely on their upper sides, said ribs being less in height than the sides of the pans whereby the bulk of the water will flow lengthwise of the pans, substantially as set forth. 6th. A feed-water heater and purifier having in combination a shell, a number of removable pans having sliding support within said shell, transverse ribs arranged on the upper sides of said pans and longitudinal irons arranged along the bottom of said pans, substantially as set forth. 7th. A feed-water heater and purifier having in combination a shell, angle irons supported longitudinally within said shell, pans arranged to slide on said angle irons, and pins or bolts depending from said pans and engaging with said angle irons, substantially as set forth. 8th. A feed-water heater and purifier having in combination a shell, a number of tiers of pans supported in said shell, and an independent water inlet pipe having a water seal, discharging into each of said tiers of pans, substantially as set forth. 9th. A feed-water heater and purifier having in combination a shell, a number of tiers of pans adapted to fit within said shell, the uprights 17 extending between said tiers of pans and being secured at their upper and lower ends to the upper and lower sides respectively of said shell, supports on said uprights for the inner edges of said pans, and an independent water supply pipe arranged directly over and leading or discharging directly into the upper pan of each tier, substantially as set forth. 10th. A feed-water heater and purifier having in combination a shell, a number of tiers of pans within said shell, a water supply nozzle leading to each of said tiers, and a three-way coupling connecting said nozzle to the water supply and being provided with upturned goose necks forming water seals, substantially as set forth. 11th. A feed-water heater and purifier having in combination a shell provided at one end with a removable head, water pans arranged within said shell and the lower one of which being provided with perforations, and a filtrant pan arranged under said perforated pan and having sliding support within said shell whereby said filtrant pans may be withdrawn from one end of the shell, substantially as set forth. 12th. A feed-water heater having in combination a shell, the filtrant pans having perforated bottoms a discharge pipe leading upward into said shell, and a shield having an imperforate top arranged over said pipe, substantially as set forth. 13th. A feed-water heater comprising a suitable shell or casing, and water pans or trays located therein, and also provided with a steam purifier having an inlet opening for steam connected to the top portion of the purifier, an impact plate having a steam inlet passage in the lower part thereof, and a discharge opening communicating with the interior of the heater, said steam purifier also containing a plurality of ledges for separating oil from the steam as the latter flows through the purifier, substantially as set forth. 14th. A feed-water heater comprising a suitable shell or casing, and water pans or trays located therein, and also provided with a steam purifier consisting of an impact plate having a plurality of ribs or flanges for separating the oil from the steam, an outlet opening formed through the lower part of said impact plate and communicating with the interior of the heater, an inlet opening placed at the top of the purifier, and an oil-drip pipe communicating with the lower part of the steam purifier, substantially as set forth. 15th. A feed-water heater and purifier, comprising a horizontal shell or casing, a plurality of water pans or trays located therein, one above another, an upright impact plate placed at one end of the shell and provided at its outer surface with a plurality of ribs for separating the oil from the incoming exhaust steam, a steam inlet opening placed adjacent to the upper part of the impact plate, and a steam discharge opening formed through the lower part of the plate and communicating with the interior of the heater, substantially as set forth. 16th. A feed-water heater and purifier comprising a horizontal shell or casing containing a plurality of water pans or trays arranged one above another, an upright impact plate located at one end of said shell and provided with a plurality of segmental ribs extending one above another transversely of the outer surface of the plate, a steam inlet located adjacent to the upper end of the plate, a discharge opening formed through the lower part of the plate and communicating with the interior of the heater, and an oil outlet placed adjacent to the lower end of the plate, substantially as set forth.

No. 47,255. Hame Staple. (*Boucle d'attelles.*)

John A. O. Livoni, Marion, Kansas, U.S.A., 12th October, 1894; 6 years.

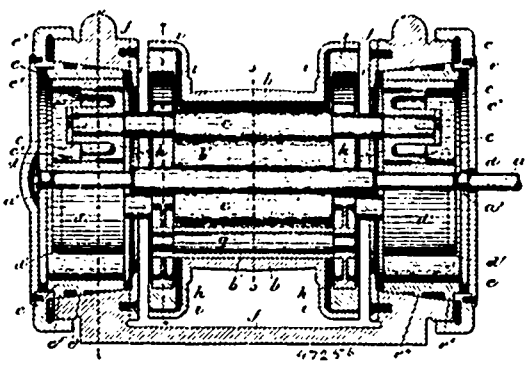
Claim.—1st. A hames attachment, comprising a U-shaped rod having the stems thereof secured to the hame section, and provided with a series of dividing tubes, and screw bolts adapted to pass through said attachment, the dividing tubes and the hame section, to form a series of openings for the reception of the clip of the trace, substantially as set forth. 2nd. The combination with a hame having holes therethrough, of a retaining plate secured to the inner sides of said hames, and having screw threaded holes in alignment with the holes of the hames, and a U-shaped attachment having



stems extending through said hames, and engaging openings in the retaining plate and dividing tubes, and screw bolts adapted to pass through said attachment, through said dividing tubes and the hames and engage the screw thread openings in the retaining plate, substantially as set forth.

No. 47,256. Power Transmitting Apparatus.

(*Appareil de transmission de la force.*)



George John Altham, Swansea, Massachusetts U.S.A., 12th October, 1894; 6 years.

Claim.—1st. A power transmitting apparatus comprising a shaft, connected containers surrounding the shaft and provided with internal annular bearings, a series of pairs of rolls interposed between the bearings and the shaft, shafts connecting the rolls, a pulley surrounding the driving-shaft, and a series of rolls connected with said pulley and bearing on the said roll-connecting shafts. 2nd. A power-transmitting apparatus comprising a shaft, connected annular bearings surrounding the shaft, rolls interposed between said bearings and shaft, said rolls being movable endwise, and automatic means for reciprocating said rolls endwise to equalize the wear of the surfaces of the bearing, rolls, and shaft. 3rd. A power-transmitting apparatus comprising a shaft having oppositely tapered sections, connected annular bearings surrounding said shaft, and rolls interposed between said bearings and shaft, said rolls being movable endwise and having portions of their peripheries tapered to co-operate, as described, with the tapered sections of the shaft in imparting initial endwise movements to the rolls, whereby the wear of the surfaces of the bearing, rolls, and shaft is equalized. 4th. A power-transmitting apparatus comprising a shaft, connected annular bearings surrounding the shaft, rolls interposed between the bearings and shaft, shafts connecting said rolls in pairs, and flexible connections between said rolls and their connecting shafts, whereby the rolls are made self-adjusting, as set forth. 5th. A power-transmitting apparatus comprising a central shaft, two connected annular bearings surrounding the shaft, rolls interposed between the bearing and shaft, the rolls being connected by shafts extending parallel with the central shaft, and loose overlapping rings adapted to retain the shafts and rolls in their proper relative positions, each ring enclosing two shafts and co-operating with adjacent rings in forming bearings adapted to support the shafts laterally. 6th. A contractible bearing ring transversely cut and provided with a compressible soft metal block between its ends, whereby the continuity of the ring is preserved.

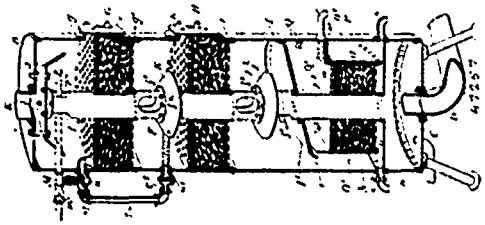
No. 47,257. Feed-Water Purifier.

(*Epurateur d'eau d'alimentation.*)

Henry Esson Moffat, Galt, Ontario, Canada, 12th October, 1894; 6 years.

Claim.—1st. In a feed-water heater and purifier, the combination

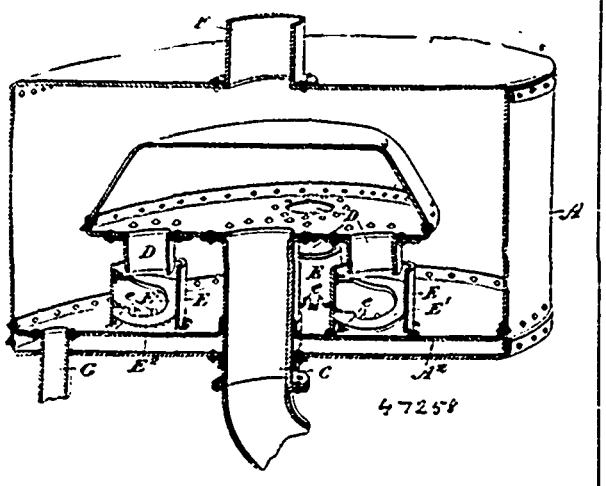
with the upper filterers and central pipe arranged as specified, of a slanting deflecting plate surrounding the pipe and having a straight edge designed to direct the water to the one side and to the bottom filterer, as and for the purpose specified. 2nd. In a feed-water



heater and purifier, the combination with the upper filterers, and central pipe arranged as specified, of a slanting deflecting plate surrounding the pipe and having a straight edge designed to direct the water to the one side and to the bottom of the bottom filterer, the top of the side of the filterer beneath the edge of the plate extending upwardly in proximity to the deflecting plate, so as to leave an opening beneath the plate, as and for the purpose specified. 3rd. In a feed-water heater and purifier, the combination with the upper filterers and central pipe arranged as specified, of a slanting deflecting plate surrounding the pipe and having a straight edge designed to direct the water to the one side and to the bottom of the bottom filterer, and the covering of sack cloth for said deflecting plate, as and for the purpose specified. 4th. In a feed-water heater and purifier, the combination with the upper filterers and central pipe arranged as specified, of the slanting deflecting plate I, settling chamber N, filterer O, having perforated top and bottom plates o, o^1, side plates O^1 and O^2, located above the bottom of the settling chamber and the sack cloth Q, covering the top perforated plate O^1, and the perforated step Q^1, located below the top of the side O^1, and the pure water chamber P, provided with a suction pipe S, as and for the purposes specified. 5th. In a feed-water heater and purifier, the combination with the upper filterers and central pipe arranged as specified, of the slanting deflecting plate I, settling chamber N, filterer O, having perforated top and bottom plates o and o^1, side plates O^1 and O^2, located above the bottom of the settling chamber, and the sack cloth Q, covering the top perforated plate O^1, perforated stop Q^1, located below the top of the side O^1, the pure water chamber P, provided with a suction pipe S, and the overflow pipe R, located below the top of the side O^1, as and for the purpose specified. 6th. In a feed water heater and purifier, the combination with the upper filterers, pipe leading from above the upper filterer to above the one next below the side pipe, being provided with suitable valves and a perforated inner end for the lower portion extending above the filterer as and for the purpose specified.

No. 47,258. Oil Extractor for Exhaust Steam.

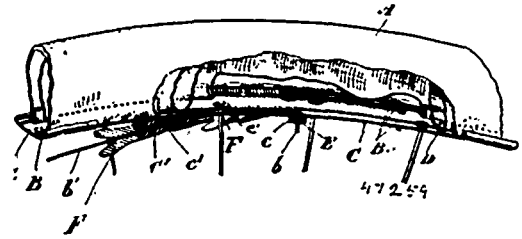
(*Extracteur d'huile de la vapeur d'épuisement.*)



Henry Esson Moffatt, Galt, Ontario, Canada, 12th October, 1894; 6 years.

Claim. 1st. An oil extractor comprised of the cylinder chamber having exhaust and return pipes, an enclosed hood connected to and supported upon the exhaust pipe, and having depending spouts and cylinder cups situated beneath the spouts and provided with openings at the bottom of the cylinder portion and a drip pipe extending through the bottom cylinder-head, as and for the purpose specified. 2nd. An oil extractor comprised of the cylinder chamber A, having exhaust and escape pipes C and F, respectively, an enclosed hood B, connected to and supported upon the exhaust pipe and having depending spouts and cylinder cups E, situated beneath the spouts and provided with openings at the bottom of the cylinder portion, the screw conveyer flanges extending from top to bottom of the cups and the drip pipe extending through the bottom cylinder-head, as and for the purpose specified.

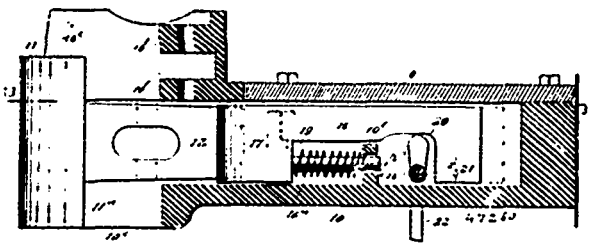
No. 47,259. Bicycle. (*Bicycle.*)



Henry Cutler, and William Smallwood, both of Toronto, Ontario, Canada, 12th October, 1894; 6 years.

Claim. 1st. In a pneumatic tire for bicycles and wheels, the combination with the tire, tube and rim of wire coils secured in the edges of the tire, and having one end of each coil extending inwardly through a hole in the rim while the other end extends obliquely through a hole in the rim into an obliquely formed sleeve, and means outside such sleeve whereby this end of the wire coil may be tightened, as and for the purpose specified. 2nd. In a pneumatic tire for bicycles, the combination with the tire, tube and rim, of wire coils secured in the edges of the tire, and having the threaded end of each coil extending inwardly through the rim and secured in position by a nut, and the other threaded end extending obliquely through the rim into an obliquely formed sleeve attached to or forming part of the rim, and provided with a suitable thumb nut, as and for the purpose specified.

No. 47,260. Car Coupler. (*Attelage de chars.*)

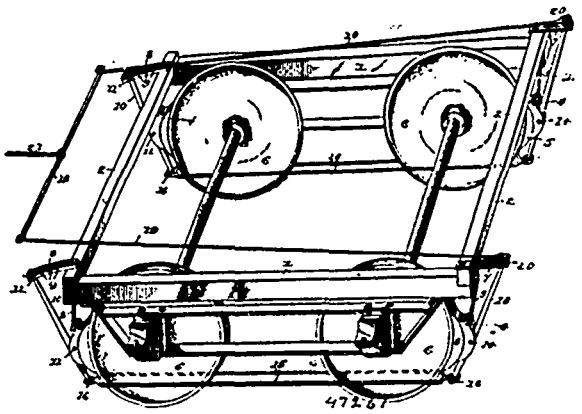


William Dunlap, San Diego, California, U.S.A., 12th October, 1894; 6 years.

Claim.—1st. In a car-coupling, the combination, with a draw-head, and a pivoted knuckle having a tail piece, of a spring-pressed sliding latch bar adapted to interlock with the tail piece, substantially as described. 2nd. In a car-coupling, the combination, with a recessed draw-head, a forwardly pivoted knuckle having a tail piece, and a spring-pressed sliding latch bar adapted to interlock with the end of the tail-piece, of a rock shaft, and cam block thereon arranged to retract the latch bar, substantially as described. 3rd. In a car-coupling, the combination, with a recessed draw-head, a forwardly pivoted knuckle having a tail-piece, and a spring-pressed sliding latch bar adapted to interlock with the end of the tail-piece and having an open recess in its lower edge, of a transverse rock shaft journalled in the walls of the draw-head, and a cam block on said shaft arranged to rock with the shaft in the recess and lock or release the latch bar, substantially as described. 4th. In a car-coupling, the combination, with a recessed draw-head, a pivoted knuckle having a tail-piece, and a spring-pressed sliding latch bar adapted to interlock with the tail piece and having an open recess in its lower edge, of a guide rod fast to the slide bar at one end and working through a perforated lug on the draw-head in the slide bar recess, a spiral spring on the rod pressing the lug and bar, and a retracting device for the bar, substantially as described. 5th. In a car-coupling, the combination, with a recessed draw-head having a horn, and a locking shoulder on the inner side of said horn, of a knuckle having a tail-piece and pivoted to swing at the front of the draw-head, and engage the end of its tail-piece with the shoulder of the horn, substantially as described. 6th. In a car-coupling, substantially as described, the draw-head having spaced ears on top at the front which ears are perforated and adapted to receive a coupling link and pin. 7th. In a car-coupling, substantially as described, the knuckle having a tail-piece that is recessed in the front edge and perforated in the walls of said recess to receive a coupling link and pin. 8th. In a car-coupling, substantially as described, the pivot bolt for the knuckle-piece having a loose head piece, a spring connection between the head piece and bolt body, means to lock the bolt body in the knuckle, and means to secure the head piece in the draw-head. 9th. In a car-coupling, substantially as described, the combination, with the draw-head ears, and knuckle-piece, the ears

and the knuckle-piece being perforated in alignment and the upper ear counterbored, of a pivot bolt adapted to be locked in the knuckle piece, a loose-head piece for said bolt, a torsion spring fast by its ends to the bolt and head-piece, and means to lock the head-piece to the upper ear and hold the spring under torsional strain, substantially as described.

No. 47,261. Car Brake. (*Frein de chars.*)

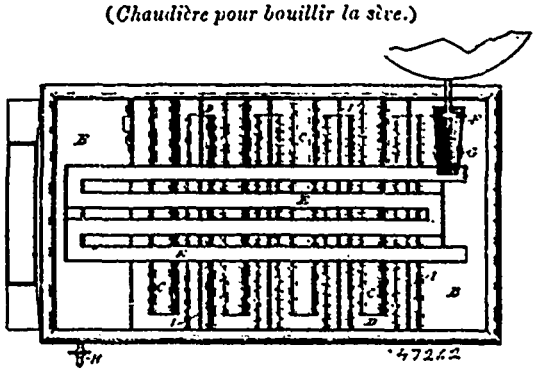


Alonzo Hendee, Columbus, Ohio, U.S.A., 12th October, 1894, 6 years.

Claim.—1st. In a beamless car brake, the combination with a truck and its wheels, of brake shoes for the wheels, brake levers pivoted between their ends to the shoes, a connecting-rod between the lower ends of said levers, means for pivotally supporting one of said levers upon the truck-frame, and the U-shaped equalizing frame having its terminals connected loosely with one set of levers, substantially as specified. 2nd. In a beamless car brake, the combination with a truck, and its wheels, of brake-shoes for the wheels, brake-levers pivoted between their ends to the shoes, a connecting-rod between the lower ends of said levers, means for adjustably and pivotally connecting the upper end of one of said levers to the truck-frame, and means for applying power to the opposite lever, substantially as specified. 3rd. In a beamless car brake, the combination with the truck-frame, the guide frame at the opposite end of the frame, the loose hangers depending from the ends of the truck-frame, the shoes pivotally connected to the hangers, the levers pivoted between their ends to the shoes, one of said levers passing at its upper end through the guide-frame and the other through the guide-bracket, a pin removably pivoting one of said levers to said guide-bracket, a pair of connecting-rods between the lower ends of the brake-levers, and means for applying draft to that lever passing through the guide-frame, substantially as specified. 4th. In a car brake, the combination with the truck-frame, of the opposite wheels, of opposite brackets at one end of the frame, and opposite guides at the opposite end of the frame, levers pivoted in the brackets and located in the guides, connecting-rods between the lower ends of the levers, brake-shoes loosely hung from the truck-frame and pivoted to the levers between the ends of the latter, and an equalizing-frame of U-shape having its terminals connected to the upper ends of those levers projecting through the guides, substantially as specified.

No. 47,262. Sap Boiling Pan.

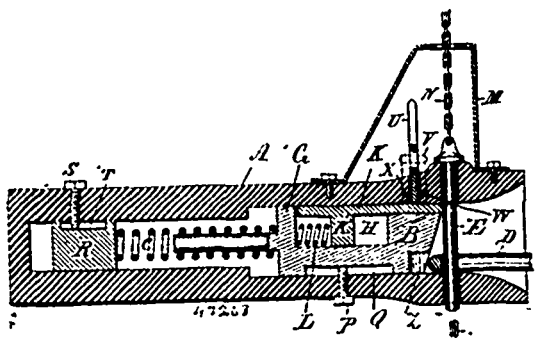
(*Chaudière pour bouillir la sève.*)



Marcelle St. Amour, Ste Scholastique, Quebec, Canada, 12th October, 1894; 6 years.

Claim.—1st. A sap-boiling implement consisting of a furnace A, a boiling pan B, having the corrugations C, fences *l*, and tap H, substantially as shown and described. 2nd. A sap boiling implement having a furnace, a boiling pan with corrugated bottom, an automatically working faucet for feeding, substantially as shown and described. 3rd. A sap-boiling implement composed of a furnace, a corrugated boiling pan, an automatic feed faucet, a warming trough extending forward and back several times over the boiling pan and a draining tap, all substantially as herein shown and described.

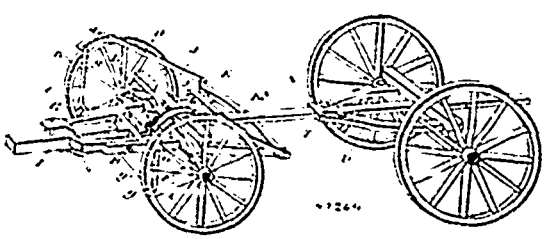
No. 47,263. Car Coupler. (*Attelage de chars.*)



François Molleur, Dillonton, Quebec, Canada, 13th October, 1894; 6 years.

Claim.—1st. In combination with the draw head A, having a spring plunger B, the spring slide K, as set forth. 2nd. The combination with the draw-head having a bent bar or cage M, of the spring plunger B, spring slide K, coupling pin E, and attached chain N, as set forth. 3rd. The combination with the draw-head A, of the bar or cage M, coupling pin E, and chain N, as set forth. 4th. The combination with the draw head A, having a hole X, at the top of the post V, lever U, and pin W, as and for *the purpose set forth.*

No. 47,264. Brake. (*Frein.*)

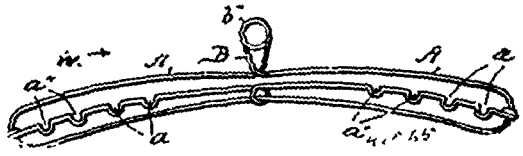


Frank K. Bell, and Herbert W. Howell, both of St. George, Ontario Canada, 13th October, 1894; 6 years.

Claim.—1st. A brake for wheels consisting of a brake-shoe, so arranged that its braking power will be generated by the force of the revolution of the wheel, an arm connected to the shoe, and to some convenient part of the carriage, and means for bringing the shoe into contact with the rim or tire of the wheel, substantially as specified. 2nd. A brake for wheels consisting of a brake shoe, so arranged that its braking power will be generated by the force of the revolution of the wheel, an arm connected to and extending rearwardly from the brake-shoe and connected to some convenient part of the carriage, and means for automatically bringing the shoe into *contact with the rim or tire of the wheel, substantially as specified.* 3rd. A brake for wheels, so arranged that its braking power will be generated by the force of the revolution of the wheel, an arm connected to and extending rearwardly from the brake shoe, said arms connected to the hounds at the rear of the axle, a U-shaped rod connecting together the brake-shoes of the front wheels, a lever connected to the front of the axle and to the U-shaped rod, a reach arranged to actuate said lever to move the U-shaped rod, and bring the shoes into contact with the rims of the wheels, substantially as specified. 4th. A brake for wheels consisting of a shoe located on the wheel above and in front of the axle, an arm connected to and extending rearwardly from the brake-shoe, and connected to the hounds at the rear of the axle, a U-shaped rod connecting together the brake-shoe of the front wheels consisting of two parallel and opposite sides, and a connecting side in front of the axle, a lever pivotally connected to the axle and to the U-shaped rod, a reach arranged to be moved forward by the rear wheels and actuate the said lever to move the U-shaped rod and bring the shoes into contact with the wheels, substantially as specified. 5th. In a wagon brake the combination with the wheels of a shoe so arranged that their braking powers are generated by the force of the revolution of the wheels, an arm connected to and extending rearwardly from the shoes, said arm also connected to some convenient part of the carriage, a U shaped rod connecting together the said shoes, a lever pivotally connected to the front of the axle and to the U shaped rod, means for depressing the U-shaped rod to bring the shoes into contact with the rim or tire of the wheel, substantially as specified. 6th. In a wagon brake the combination

with the wheels of shoes so arranged as to grip the rims or tires of the wheels and to cause their braking powers to be generated by the force of the revolution of the wheels, an arm connected to and extending rearwardly from each of the said shoes, said arm also connected to the hounds, a U-shaped rod connecting together the said shoes, a lever pivotally connected to the axle and connected to the U-shaped rod, a sliding reach arranged to operate the said lever to depress the U-shaped rod and to bring the shoes into contact with the rims or tires of the wheels, and a bolster arranged to be slidden forwards or backwards and move with the reach independently of the axle, substantially as specified. 7th. In a brake for wheels the combination of the brake-shoe A, the U-shaped rod G connecting together the said brake-shoes, the axle F longitudinally movable, the lever H pivotally connected to the front of the axle and to the U-shaped rod, a V-shaped plate connected to the lever and engaging with the end of the reach, the guide plate O connected to the top of the axle, the sand board L, the guide plates N connected to the under side of the bolster P and sliding on the guides N, substantially as specified.

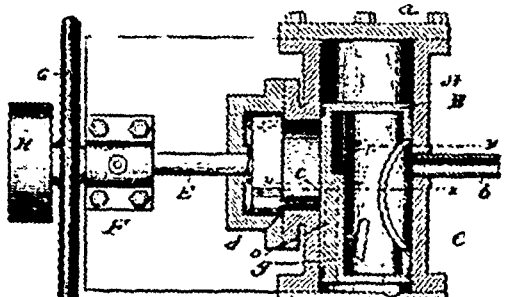
No. 47,265. Garment-Holder. (*Porte-vêtements.*)



Peter A. Sweeney, Providence, Rhode Island, U.S.A., 13th October, 1894; 6 years.

Claim.—1st. In a garment-holder, a body A, provided at each end with one or more vertical slots a^1, a^1, and the transverse notches, a^2, a^2, arranged at the upper edge of said slots, combined with a suspending hook B, and depending hooks a, a, held in the said slots and capable of adjustment relatively to each other in said notches, and adapted to engage respectively the two front and two rear buttons on the waistband of a pair of trousers, and thereby hang them folded in the shaping creases pressed in the front and back of the trouser legs. 2nd. In a garment-holder, a body A, provided at each end with one or more vertical slots a^1, a^1, and the transverse notches a^2, a^2, arranged at the upper edge of said slots, combined with the offset suspending hook B, provided with a bifurcated or staple like termination whereby it is rigidly secured to the said body at two separate points, and thereby prevents the latter from twisting or turning. 3rd. In a garment-holder, a body A constructed of wire, and provided with longitudinal vertical slots a^1, a^1, and the transverse notches a^2, a^2, and with the suspending loop B, combined with depending hooks a, a, held in said slots, and capable of adjustment relatively to each other in said notches, and adapted to engage respectively the two front and the two rear buttons on the waistband of a pair of trousers, and thereby hang them folded in the shaping creases pressed in the front and back of the trouser legs. 4th. The suspending hook B, combined with a body A, and provided with a bifurcated or staple like termination, whereby it is rigidly secured to said body at two separate points, and thereby prevents the body from turning or twisting.

No. 47,266. Steam Engine. (*Machine à vapeur.*)

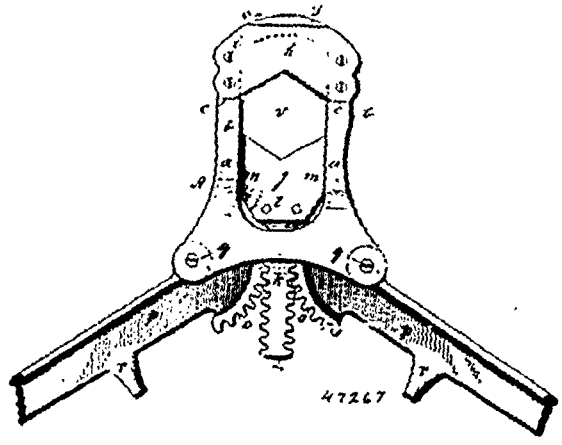


Henry W. Nipper, London, Ontario, Canada, 13th October, 1894; 6 years.

Claim.—1st. A steam engine, having a hollow reciprocating piston in open communication with the motor fluid supply pipe and provided with eduction ports in the wall of the piston and on opposite sides of the supply opening and extending to the ends thereof, in combination with passages in the wall and extending to the ends of the cylinder. 2nd. A steam engine, having a hollow piston provided with an elliptical opening on one side, induction ports on opposite sides and ends of said opening and exhaust ports and passages, in combination with supply passages in the wall of the cylinder, and means for oscillating the piston in its stroke. 3rd. A steam engine, having a hollow piston provided with an elliptical opening and induction ports, in combination with a packing for said induction ports consisting of an annular ring, a spider, and means for adjusting the packing to compensate wear. 4th. A steam engine consisting of a cylinder provided with supply passages in the wall thereof, a hollow piston in constant communication with the supply pipe and provided with eduction ports and exhaust passages and a wrist-pin, in combination with a shaft having a crank to which said wrist-pin is connected to impart an oscillatory motion to the piston in its stroke.

No. 47,267. Dehorning Instrument.

(*Instrument pour décorner.*)

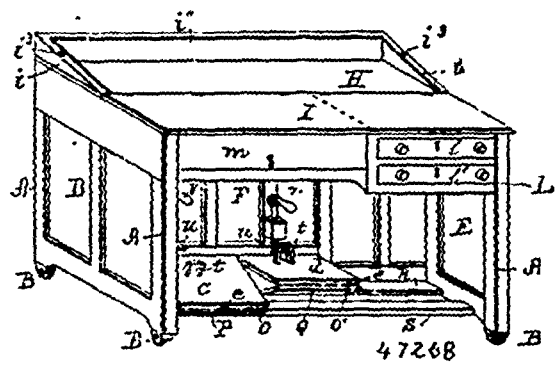


Alva C. Brosius, Cochransville, Pennsylvania, U.S.A., 13th October, 1894; 6 years.

Claim.—The herein described dehorning implement comprising a frame having a slot t, and shoulders c, g, the stationary knife h, provided with V-shape cutting edge and secured to the frame between the said shoulders, the movable knife having a corresponding V-shape cutting edge and adapted to slide in the grooves m, m, the follower k, having the toothed stem n, and the handles consisting of the ferrule t, and the integral backbone t-1, and bearing t-2, the thinner web t-3, extending from the centre of the backbone and bearing and having the integral segment o, and stop, said handle being pivoted to the solid frame, at q, q, as set forth.

No. 47,268. Organ and Desk Combined.

(*Orgue et pupitre combinés.*)



Minnie E. Pantenney, Butler, Illinois, U.S.A., 13th October, 1894; 6 years.

Claim.—1st. A school-desk and organ combined, having a drawer-compartment located at one side of the key-board, and a hinged lid adapted to cover the key-board and upper drawer of the drawer-compartment, substantially as set forth. 2nd. The combination with the combined desk and organ, the hinged pedals, as described, each pedal provided with a staple, and the locking devices for engaging said staples when the pedals are raised, substantially as and for the purpose specified.

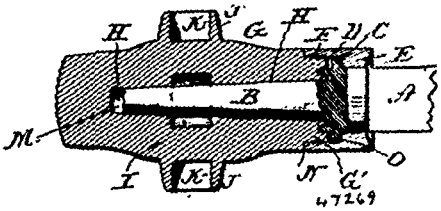
No. 47,269. Hub for Vehicle Wheels.

(*Moyeu pour roues de voiture.*)

Zachary Thomas Wilson, Inverness, Florida, U.S.A., 13th October, 1894, 6 years.

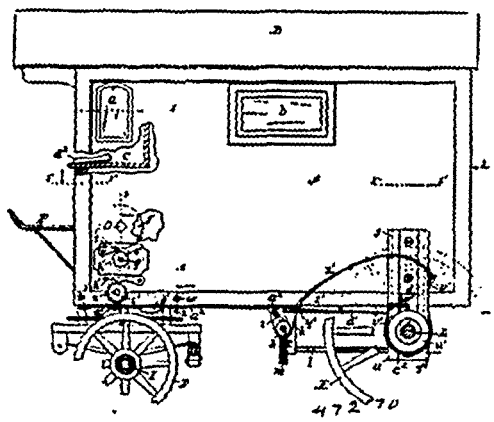
Claim.—1st. The improved all-metal hub for vehicles herein described, comprising the axle-box G, having oil chamber I, a solid

closed and rounded outer end L, and at its inner open end formed with a screw-threaded extension G^1, in combination with the spindle B, having flange C, provided with the circular sand-band



D, and collar F, having annular nut or flange E, adapted to be screwed up upon the hub so as to bear against the spindle-flange C, and recessed box extension, substantially as and for the purpose herein shown and set forth. 2nd. As an improved article of manufacture, an all-metal hub-body for vehicle wheels, having a central tapering bore enlarged midway of its length to form an oil-chamber or receptacle, and closed at its outer end, said closed end being made solid and rounded, substantially as and for the purpose herein shown and specified.

No. 47,270. Wheeled Vehicle. (*Roue de voiture.*)



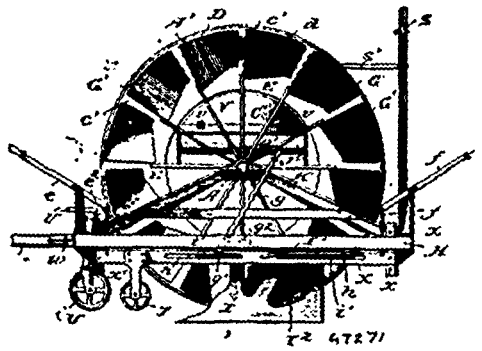
Philip Heseltine, Rochester, New York, U.S.A., 13th October, 1894; 6 years.

Claim.—1st. A wheeled vehicle consisting of a mounted body open at the rear end, and a cushioned bed or floor held within the body, and adapted to move longitudinally out through the rear opening therein, in combination with gearing beneath the body to move said bed or floor, substantially as shown and set forth. 2nd. A wheeled vehicle consisting of a mounted body open at the rear end, having internal cushioned walls, and a cushioned bed or floor within the body, mounted upon rollers and adapted to move through the opening in the rear end of the body, with means to control said bed or floor, and to raise and lower the body, substantially as shown and described. 3rd. A vehicle, as a veterinary ambulance, consisting of a body mounted upon a forward axle with wheels at the sides, and two short rear axles with wheels at the sides of the body, and vertical races, rigid with the body holding the respective short axles, and adapted to move upon the latter, in combination with a longitudinal drum under the body, and connecting cables for said drum and the short axles, with means to rotate the drum, substantially as described. 4th. An ambulance or vehicle consisting of a body mounted upon a forward axle and wheels, and two short rear axles with wheels, and vertical races rigid with the sides of the body, adapted to move upon the short axles respectively, in combination with a longitudinal drum below the body and cables upon the drum connected with the short axles, and means to rotate the drum, and easing springs interposed in the cables between the respective axles and the drum, substantially as described. 5th. A wheeled vehicle consisting of a mounted body open at the rear end, and a longitudinally movable bed held by the body, a cross-roller at the forward end of the body, with means to turn it, in combination with a vertically movable tackle-block at the rear end of the body, and a rope upon said roller, and leading through said tackle-block out at the rear end of the body.

No. 47,271. Excavator. (*Excavateur.*)

William Milton Gross, Spokane, Washington, U.S.A., 13th October, 1894; 6 years.

Claim.—1st. In an excavating machine, the combination, with the supporting frame, of a bucket-wheel having a construction adapted to receive, elevate and discharge the material therein, an unyielding excavator support in the frame, an excavator held rigidly therein, and means actuated by a single lever for adjusting the excavator horizontally in a straight line, substantially as described. 2nd. In an excavating machine, the combination, with the supporting frame, of a bucket-wheel having a construction adapted to receive, elevate and discharge the material deposited therein, an unyielding adjust-

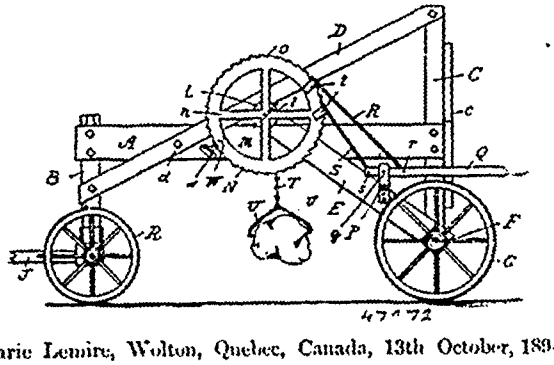


able excavator support in the frame, an excavator held rigidly therein, means for adjusting the excavator support vertically in respect to the rotating device and frame, and means actuated by a single lever for adjusting the excavator horizontally in a straight line, substantially as described. 3rd. In an excavating machine, the combination, with the supporting frame, of a rotating device having a construction adapted to receive, elevate and discharge the material deposited therein, a plough-beam supported in said frame and having a vertical longitudinal slot and lateral longitudinal slots, a plough having a rack frame moving horizontally in said vertical slot, studs on the rack frame sliding in said lateral slots, a lever pivoted to said plough-beam and having a stirrup engaging with said plough-rack frame, and gage-wheel on said plough-beam, substantially as described. 4th. In an excavating machine, the combination, with the supporting frame, of a rotating device having a construction adapted to receive, elevate and discharge the material deposited therein, a plough-beam supported in said frame and having the vertical and lateral longitudinal slots as described, vertical guides secured to the supporting frame at each extremity of and retaining the plough-beam, means for fastening the plough beam to the guides, a plough having a rack frame moving horizontally in said vertical slot, studs on the rack frame sliding in said lateral slots, a lever pivoted to said plough-beam and having a stirrup engaging with said rack frame, levers pivoted to standards secured to the supporting frame and connected to said plough-beam ends as described, and a gage-wheel on said plough-beam, substantially as described. 5th. In an excavating machine, the combination, with the supporting frame, of a bucket-wheel adapted to receive, elevate and discharge the material deposited therein, an unyielding adjustable excavator support in the frame, an excavator held rigidly therein, means for adjusting the excavator support vertically in respect to the rotating device and frame, means actuated by a single lever for adjusting the excavator horizontally in a straight line, and a supporting wheel vertically adjustable in respect to the supporting frame, substantially as described. 6th. In an excavating machine, the combination, with the supporting frame, of a rotating device adapted to receive, elevate and discharge the material deposited therein, a plough-beam supported in said frame and vertically adjustable therein, a plough supported in said plough-beam and horizontally adjustable therein, a gage-wheel on said plough-beam, a vertical sliding frame secured to said supporting frame, a wheel having its axle sliding in said frame, a lever pivoted to the supporting frame and suitably connected to said wheel axle for raising and lowering the same, and a locking device on said supporting frame for locking the lever in position as described. 7th. In an excavating machine, the combination with the supporting frame, of a rotating device having a construction adapted to receive, elevate and discharge the material deposited therein, and a plough supported by the frame and having a hinged mould-board and yielding spring connection between the mould-board and the plough-frame, as described. 8th. In an excavating machine, the combination with the supporting frame H, of the bucket-wheel A^1, having a construction adapted to receive, elevate and discharge the material deposited therein, the plough-beam X supported in said frame and sliding vertically in the guides x secured to the supporting frame at each extremity of the plough-beam, the standards secured to the supporting frame H, the levers f e pivoted to said standards and the links f^1 e^2, connected to said plough-beam and levers whereby the plough-beam can be elevated and lowered the locking device consisting of apertures x x^1, in said plough-beam and guides and a pin to secure them together, the plough and the gage-wheel j both secured to said plough-beam, substantially as described. 9th. In an excavating machine, the combination with the supporting frame, of an excavator supported therein, and a bucket-wheel having a broad rim or thread D secured near the receiving edge to the spokes of the wheel and forming the bottom of the buckets, the outwardly dished ring F on its delivery side forming the back of the buckets, the interior diagonal partitions G connecting the ring F with the spokes having the cutting and retaining flanges, as described, and forming the sides of the buckets, and the inwardly dished scalloped ring E on the receiving side forming the mouth of

the buckets, substantially as described. 10th. In an excavating machine, the combination with the supporting frame, of an excavator, a bucket-wheel having the rim D, the outwardly dished ring F, the interior diagonal partitions G and the inwardly dished scalloped ring E, and a carrier supported by the frame and extending within the bucket-wheel and adapted to receive and discharge the material delivered from the buckets, substantially as described. 11th. In an excavating machine, the combination with the supporting frame, of an excavator, a bucket-wheel having the rim D, the outwardly dished ring F, the interior diagonal partitions G and the inwardly dished scalloped ring E, a carrier supported by the frame, extending within the bucket-wheel and adapted to receive and discharge the material delivered from the buckets, and the shield V secured to the carrier frame and adapted to form with the ring E of the bucket-wheel a delivery chute on to the carrier as described. 12th. In an excavating machine, the combination with the supporting frame, of an excavator, a bucket-wheel having the rim D, the outwardly dished ring F, the interior diagonal partitions G and the inwardly dished scalloped ring E, a carrier frame extending within the circumference of the bucket-wheel and having an endless carrier running upon rollers mounted in the frame a gear-wheel on the bucket-wheel axle, and suitable gear connection between it and the carrier rollers, substantially as described. 13th. In an excavating machine, the combination with the supporting frame, of an excavator, a bucket-wheel having the rim D, the outwardly dished ring F, the interior diagonal partitions G, and the inwardly dished scalloped ring E, a carrier frame having a fixed receiving end extending within the circumference of the bucket-wheel and hinged outer delivery end, an endless carrier mounted upon rollers in said carrier frame, suitable gearing between the bucket-wheel axle and the carrier rollers, and suitable means for raising and lowering the delivery end of the carrier, as described. 14th. In an excavating machine, the combination with the supporting frame, of an excavator, a bucket-wheel having the axle A, and the buckets formed by the rim D, the outwardly dished ring F, the interior diagonal partitions G, and the inwardly dished scalloped ring E, the carrier J, having the fixed frame extending within the circumference of the bucket-wheel, and the hinged delivery frame, the endless carrier travelling over the rollers in said fixed and hinged frames, the sprocket-wheel Q, on the hinged frame roller, the shaft O, mounted in the outer extremity of said fixed frame, the sprocket-wheel P, on said shaft, the chain connection between the sprocket-wheels on the shaft and rollers, the bevel gear L, on said bucket-wheel axle, its pinion shaft and sprocket-wheel N, and the chain connection with the carrier shaft O, the lever S, pivoted to the fixed carrier frame and suitably connected to its hinged delivery end, and the shield V, secured to the carrier frame and suitably connected to its hinged delivery end, and the shield V, secured to the carrier frame, as described, 15th. In an excavating machine, the combination with the supporting frame, of the vertically adjustable supporting wheel, the swivel-wheel secured to the forward end of said frame, the plough having the hinged mould-board and spring, as described, and adjustable vertically and horizontally in said frame, the bucket-wheel mounted in said frame and having the rim, partitions and rings as described, the endless carrier having the fixed and hinged portions extending within the circumference of said bucket wheel, as described, the gear for operating the carrier directly from the axle, the lever connection for operating the hinged end of the carrier, and the carrier shield, all constructed and operating, substantially as described.

No. 47,272. Machines for Lifting Stones, &c.

(*Machine pour soulever la pierre, etc.*)

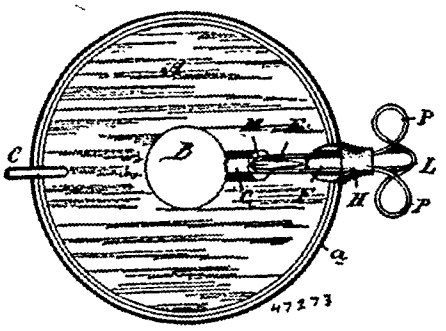


Azarie Lemire, Wolton, Quebec, Canada, 13th October, 1894; 6 years.

Claim.—1st. In a machine for lifting and moving stones and the like, the combination with a main frame mounted on suitable running gear of the drum H journalled in said frame, a hub L secured on the end of the said drum, the wheel N secured on said hub having ratchet-teeth O on its periphery, the hand lever Q pivoted to the said frame, stirrups R and S, pivoted to the said lever and adapted to engage the said ratchet teeth and means for holding the said wheel in any position, substantially as set forth. 2nd. In a machine for lifting and moving stone and the like, the combination, with a drum and ratchet-wheel operated by means of a lever having pivoted stirrups, of the V-shaped main frame A carrying the vertical posts B and C, C, braces securing said posts to the said sills, bearings formed for the said drum by the junction of the said main frame and braces, a rear axle carried by the rear posts C, C, and a front axle pivoted by a king bolt to the front vertical post B, substantially as set forth.

No. 47,273. Stove Pipe Damper.

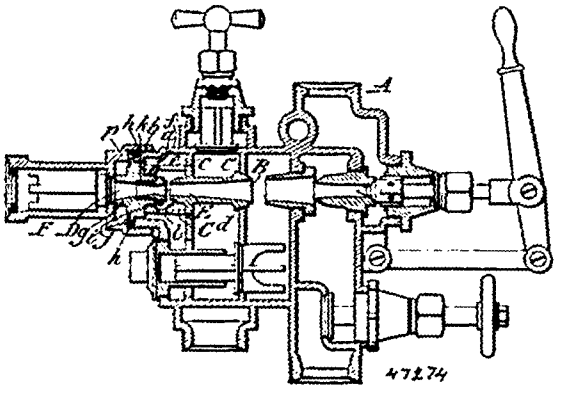
(*Clé de tuyau de poêle.*)



Michael Murty, Peterborough, Ontario, Canada, 13th October, 1894; 6 years.

Claim.—The combination, with the damper plate A, having a radial groove or depression terminating in a semi-collar F, at the circumference of said plate and provided with a gudgeon or semi-radial axis C, and a hook E, of the spindle G, fitting into said groove, said spindle having a hollow and perforated collar H, and a T-shaped bent wire spring L, having a loop M, passing through said hollow collar and engaging said loop and spirally coiled outwardly to form the handle, and the ends of the wire entering the perforations in the collar, to keep them in place, whereby the expansion of said spring-handle forces the collar H, inwardly and by friction with the stove pipe holds the damper in a set position, as set forth.

No. 47,274. Injector. (*Injecteur.*)



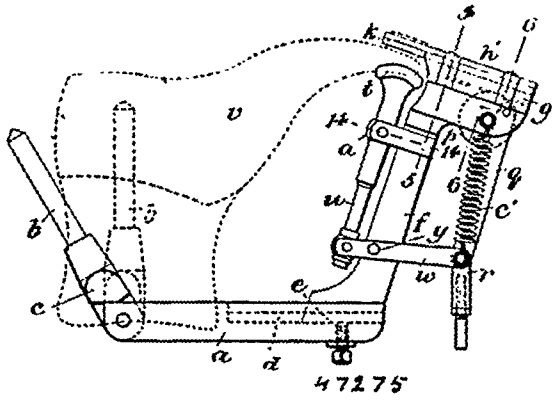
The Automatic Injector Company, assignee of Parker Pillsbury Hogue, Cincinnati, Ohio, U.S.A., 17th October, 1894; 6 years.

Claim.—1st. A feed-water injector for steam boilers, comprising removable end piece or bushing having a threaded bore, and an exteriorly threaded and removable delivery tube arranged in said bore and connected to the end piece or bushing alone and not connected to, or engaging any other part, substantially as specified. 2nd. A feed-water injector for steam boilers, comprising a shell or casing having interior and exterior threads at its feed end, a remo vable end piece or bushing carrying a removable delivery tube and h aving exterior threads to engage the interior threads of the casing and also having a flange *k*, adapted to abut against the end of the said casing, and a line check or pipe having interior threads to engage the exterior threads of the casing and also having a shoulder *p*, adapted to bear against the flange of the end piece or bushing, substantially as and for the purpose set forth. 3rd. In a feed-water injector for steam boilers, comprising a casing, a removable combining tube, and a removable end piece detachably connected directly to the combining tube, whereby the end piece and combining tube may be together removed from the casing and then disconnected, substantially as specified. 4th. A feed water injector for steam boilers, comprising a casing, a removable combining tube arranged in said casing, a removable end piece or bushing detachably connected directly to the combining tube, and a delivery tube carried by, and detachably connected to the end piece or bushing, whereby the combining tube, the end piece or busing and the delivery tube

may be together removed from the casing, and the combining tube and delivery tube then disconnected from the end piece or bushing, substantially as specified. 5th. A feed water injector for steam boilers, comprising a casing, a removable combining tube arranged in said casing, and having an extended and interiorly threaded cylindrical portion C, a removable end piece or bushing detachably connected to the casing and having exterior threads to engage the threads of the portion C, and also having an interior threaded bore and an exteriorly threaded delivery tube arranged in the bore of the end piece or bushing, substantially as specified. 6th. The herein described feed-water injector for steam boilers, comprising a shell or casing having interior threads at its feed end, a removable combining tube arranged in the shell or casing and having an extended and interiorly threaded cylindrical portion C, an end piece or bushing D, having exterior threads to engage the threads of the casing and tube portion C, and also having an angular portion *g*, the flange *h*, and the interior threaded bore, and an exteriorly threaded delivery tube adapted to take into said bore and having an angular head or shoulder, substantially as and for the purpose set forth. 7th. A feed-water injector for steam boilers, comprising a casing, a removable combining tube arranged in said casing and having an extended and exteriorly threaded cylindrical portion C, and a removable end piece or bushing detachably connected to the casing and having exterior threads to engage the threads of the casing, and also exterior threads to engage the portion C, substantially as specified.

No. 47,275. Machine for Lasting Boots and Shoes.

(*Machine à enformer les chaussures.*)

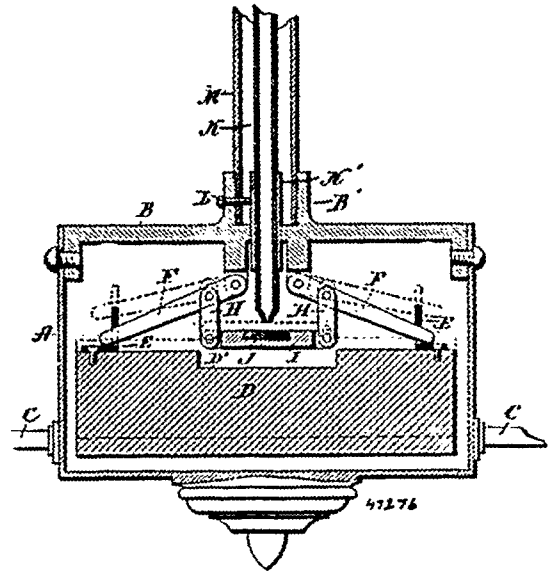


Benjamin Augustus Norwood and Joshua Sumner Holt, both of Boston, Massachusetts, U.S.A., 17th October, 1894; 6 years.

Claim.—1st. A lasting machine, comprising in its construction a pair of parallel wiping plates and means, substantially as described for moving said plates in the direction of their length, and at the same time moving them toward each while preserving their parallelism. 2nd. A lasting machine, comprising in its construction three parallel wiping plates, and means for moving said plates in unison in the direction of their length, and at the same time moving the two outer plates toward the centre plate while preserving their parallelism. 3rd. A lasting machine, comprising in its construction a pair of parallel wiping plates, means for moving said plates in the direction of their length, and at the same time toward each other while preserving their parallelism, and a centre plate in engagement with said parallel plates, whereby it moves longitudinally with them without partaking of their lateral movement. 4th. In a lasting machine, a pair of parallel wiping plates crank-discs connected with said plates, and means for simultaneously actuating said crank-discs whereby the plates are moved toward each and away from each other and also in the direction of their length, while their parallelism is preserved. 5th. In a lasting machine, a pair of parallel wiping plates, gears connected eccentrically with said plates, and a reciprocating rack in mesh with all said gears whereby the plates will be moved toward and away from each other and also in the direction of their length, while their parallelism is preserved. 6th. In a lasting machine, the combination of a head, a wiping plate engaged with said head, whereby it is guided in a movement in the direction of its length, a pair of parallel wiping plates on opposite sides of the first named plate and engaging the same, said pair of plates movable in the direction of their length, and also toward and away from each other, and means for actuating the two outer plates whereby an arc movement is imparted to them, and a longitudinal movement is imparted to them, and a longitudinal movement is imparted to the central plate, substantially as described. 7th. In a lasting machine, the combination of a lasting jack, an adjustable column connected thereto, a vertically movable toe-rest supported on one side of the column, a head at the upper end of the column, wiping plates in said head, means for actuating said wiping plates, and supported on the opposite side of the column to the toe-rest, and a suitable connection between said actuating means and the toe-rest, and supported by the column, whereby the toe-rest and wiping plates are operated simultaneously. 8th. In a machine for lasting boots and shoes, the combination of the head *g*, a gear journalled in bearings in the head, a rack adapted to mesh with said gear, gears adapted to mesh with teeth formed upon each side of said rack, and wiping plates connected with said gears as described, and adapted to be moved in the arc of the circle by the partial rotation of said gears, as set forth.

No. 47,276. Oil Regulator for Lamps.

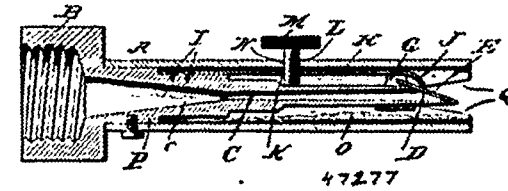
(*Régulateur d'huile pour lampes.*)



Herbert Stuart Pullman, Meriden, Connecticut, U.S.A., 17th October, 1894; 6 years.

Claim.—1st. In an automatic oil-regulator for continuously fed lamps, the combination with a lamp-fount, of a float located therein, a feed-pipe entering the fount, and arranged to discharge vertically downward at a point directly over the float, a valve interposed between the discharge-end of the pipe and the float, a plurality of operating-levers connected at their upper ends with the fount, and having their lower ends connected with the float, so as to permit the same to rise and fall, and links depending from the said operating-levers and connected at their lower ends with the valve, substantially as set forth. 2nd. In an automatic oil-regulator for continuously fed lamps, the combination with a lamp-fount, of a float located therein, a vertically adjustable feed-pipe extending downward into the fount and discharging downward at a point directly over the float, a valve consisting of an elastic pad interposed between the float and the discharge rod of the pipe, and of a horizontally arranged bar in which the said valve is mounted, a plurality of operating-levers pivotally connected at their upper ends with the fount, and connected at their lower ends with the float, so as to permit the same to rise and fall, and links depending from the said operating-levers and connected at their lower ends with the said bar, substantially as set forth.

No. 47,277. Spray Nozzle. (*Lance de jet d'eau.*)

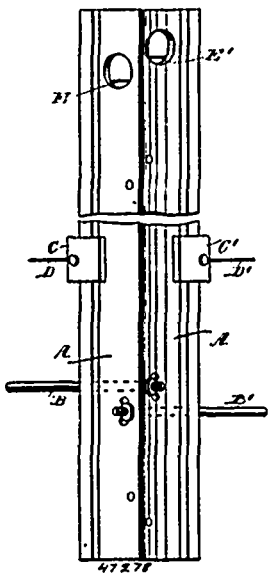


Horace F. Neumeyer, Macungie, Pennsylvania, U.S.A., 17th October, 1894; 6 years.

Claim.—1st. In a spray-nozzle, the nozzle spout having an inclined outer discharge end, a self-adjusting valve-plate pivotally mounted on said inclined end of the spout, an adjustable spring secured to the spout and bearing on said valve-plate, and an outer nozzle tube fitted over said spout, substantially as set forth. 2nd. In a spray-nozzle, the reduced nozzle-spout having an inclined outer discharge end, a spring-closed self-adjusting valve-plate arranged to work over the inclined outer end of the spout, and an outer nozzle-tube arranged over said nozzle-spout and having oblique slots at its outer end agreeing with the angle of inclination of the outer spout end, substantially as set forth. 3rd. In a spray nozzle, the body

having a reduced spout provided with an inclined outer discharge end, a plate arranged to work over said inclined end of the spout to receive the pressure of liquid thereagainst, and an outer nozzle-tube removably fitted on to the nozzle body over said spout and having oblique spray-slots at its outer end agreeing with the angle of the outer discharged end, of the nozzle-spout, substantially as described. 4th. In a spray-nozzle, the body having a reduced spout provided with an inclined outer discharge-end, and oval-shaped self-adjusting valve-plate pivotally mounted on the spout and *adapted to work over the outer inclined end thereof*, a spring made fast at one end to said spout and having its other free end engaging on top of said valve plate, said spring having a threaded opening, and an adjusting-screw working through the threaded opening of said spring, and impinging against the nozzle-spout, substantially as set forth. 5th. In a spray-nozzle, the combination of the spout, having an inclined valve-seat at its outer end, a self-adjusting valve-plate pivotally mounted and working on to said valve-seat, a leaf-spring arranged to bear at one end on said valve-plate and having a threaded opening, a set-screw engaging the threaded opening of said spring to adjust the same, and an outer-nozzle tube detachably fitted on to said spout and having oblique spray-slots at its outer end disposed at the same angle as said inclined valve-seat, substantially as set forth.

No. 47,278. Plumb Rule. (*Fil d'aplomb.*)



Frank Holt, South Pittsburg, Tennessee, U.S.A., 17th October, 1894; 6 years.

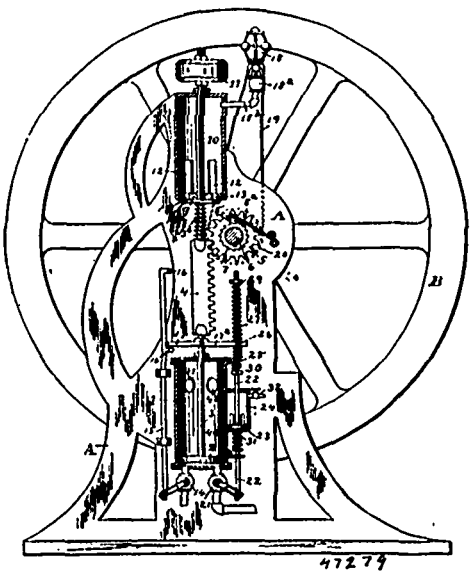
Claim.—1st. A plumb-rule, comprising two blades arranged at right angles to each other, and a slide fitted to slide on each blade and adapted to carry a rope or cord, substantially as described. 2nd. A plumb-rule, comprising two blades arranged at right angles to each other, a slide on each blade and adapted to carry a rope or cord, and clamping rods held on the said blades, and adapted to engage a wall to fasten the rule in place, substantially as described. 3rd. A plumb-rule, comprising two blades, a slide on each blade and adapted to carry a rope or cord, clamping rods detachably secured to the blades, and a plumb-cord and bob supported from each blade, substantially as described. 4th. In a plumb-rule, the combination of the blades having semi-circular notched projections at their upper ends, and plumb-cords secured to the projections and provided with bobs at their ends, substantially as described.

No. 47,279. Direct Acting Steam Engine.

(*Machine à vapeur à effet direct.*)

James Daniel Gray, William Benjamin Price, and Abraham Sharp, all of Baltimore, Maryland, U.S.A., 17th October, 1894; 6 years.

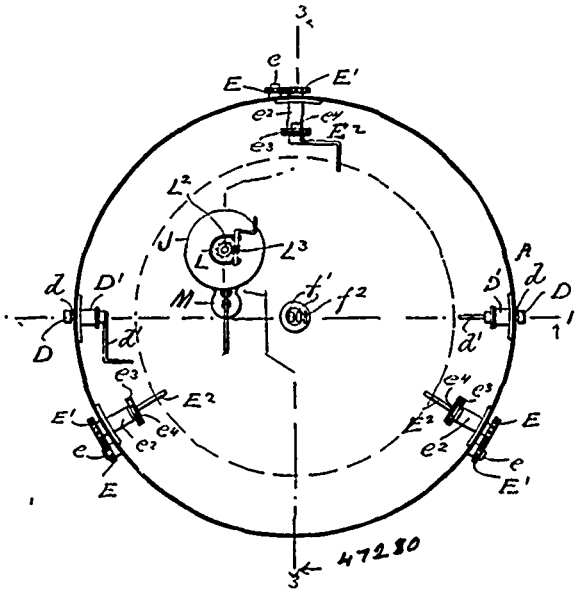
Claim.—1st. The combination of a driven-shaft, a piston actuated one way only by steam, a plunger carried by the piston-rod and operating in a dash-pot, connections between the said shaft and piston, whereby the former can rotate independently of the reciprocations of the latter, and means for controlling the movement of the plunger. 2nd. The combination of a driven-shaft, a piston actuated one way only by steam, a plunger carried by the piston-rod and operating in a dash-pot, connections between the said shaft and piston, whereby the former can rotate independently of the reciprocation of the latter, valve mechanism for controlling the inlet of fluid to the dash-pot, and a governor operated by the driven-shaft to regulate the said valve mechanism. 3rd. The combination of a driven-shaft, a pinion loose on said shaft, an automatic clutch mechanism co-acting between the shaft and pinion, whereby the pinion is free to turn on the driven-shaft one way, but is prevented



from turning on the driven-shaft the other way, a piston actuated one way only by steam, a rack-bar carried by the piston and engaging the said pinion, a plunger also carried by the piston and operating in a dash-pot, and valves to control the inlet and exhaust of steam to the piston cylinder.

No. 47,280. Diving Apparatus.

(*Appareil de plongeur.*)

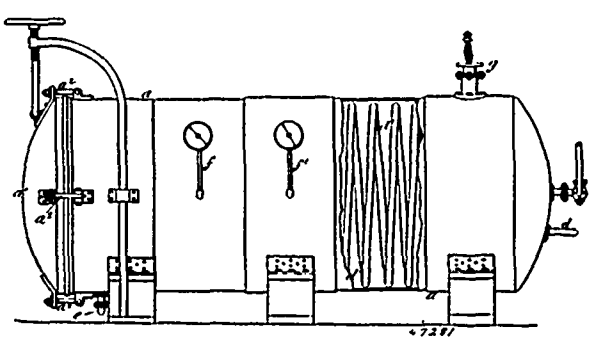


George Worden Smith, Milwaukee, Wisconsin, U.S.A., 17th October, 1894; 6 years.

Claim.—1st. A diving apparatus comprising a suitable shell or casing provided with air induction and eduction pipes, a weight for sinking said shell or casing and provided upon its upper side with an upwardly extending stud, a clamp upon the under side of the bottom of the shell or casing and adapted for detachable engagement with said stud, and suitable mechanism extending through the bottom of the shell or casing for actuating said clamp to grasp or release said stud, substantially as set forth. 2nd. A diving apparatus comprising a suitable shell or casing provided with air induction and eduction pipes, a weight for sinking said shell or casing and provided upon its upper side with an upwardly extending stud, carrying a ball at its upper end, a pair of jaws, each provided with a half socket and adapted for engagement with said ball, arms secured to said jaws and extending through the bottom of shell or casing and pivotally supported therein, and suitable means within the shell or casing for adjusting said arms, and the

connected jaws to grasp or release said ball, substantially as set forth. 3rd. A diving apparatus, comprising a suitable shell or casing, a weight for sinking said shell or casing, a detachable ball-and-socket connection between said shell or casing and said weight, suitable means upon the inside of the shell or casing for freeing said weight, suitable legs adjustably engaged with the outside of the shell or casing and adapted for engagement with the ground outside of the same, shafts journalled in the side walls of the shell or casing and having rack and pinion engagement with said legs, and crank arms engaged with the inner ends of said shafts for rotating the same to adjust the legs vertically to level the shell or casing, substantially as set forth. 4th. A diving apparatus comprising a suitable shell or casing,a weight for sinking the same, detachably pivoted to the bottom thereof, a plurality of shafts journalled in the side walls of said shell or casing, vertically adjustably legs upon the outside of the shell or casing adapted for engagement with the ground and having rack and pinion engagements with certain of said shafts, other legs having rigid engagement with the outer ends of the other shafts, and adapted for engagement with the ground, and suitable crank-arms upon the inner ends of said shafts for rotating the same to effect a desired movement of either set of legs to level said shell or casing or to adjust it to a desired position, substantially as set forth. 5th. A diving apparatus, comprising a suitable shell or casing, having suitable bull's-eyes in its side walls, a weight detachably secured thereto, means for adjusting said shell or casing upon the bottom, one or more tubular arms movably engaged with water tight bearings in the side walls of the shell or casing and each carrying a rigid jaw at its outer end, suitable rods or bars having sliding engagement within said tubular arms, and each carrying at its outer end a jaw opposed to the first mentioned jaw, suitable locking devices upon the inner ends of said arms for securing said rods or bars in their adjusted positions with respect to said tubular arms, and suitable counterbalance weights operatively connected with the inner ends of said arms, for counteracting the inward pressure of the water upon said arm, substantially as set forth. 6th. A diving apparatus comprising a shell or casing having suitable bull's-eyes in its side walls, a weight attachably secured thereto, a vertically movable standard extending upward through the top of the shell or casing and carrying a horizontal beam, means within the shell or casing for adjusting said beam horizontally, and suitable means for rotating said standard, substantially as set forth.

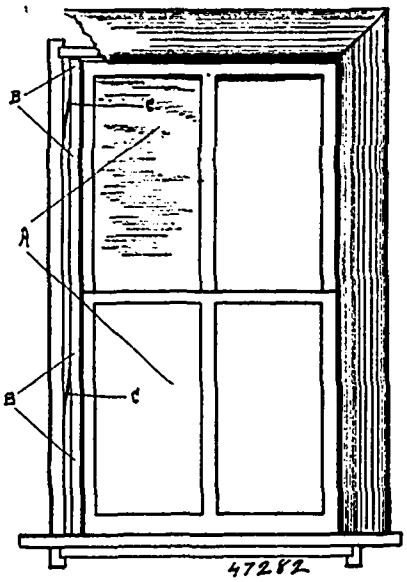
No. 47,281. Treatment of Hay, &c., and Apparatus Therefor. (*Appareil pour le traitement du foin, etc.*)



David Adam Fyfe, Victoria Mills, Wharf Road, Stratford, Essex, England, 17th October, 1894; 6 years.

Claim.—1st. The treatment of bales or trusses of hay, straw or clover by submitting them to the cooking action of high pressure steam contained in a strong closed cylinder or vessel, and prevented from condensing by heat supplied to the said cylinder or vessel independently of the steam admitted to its interior, and also submitting them to the drying action of a partial vacuum formed in the said vessel or boiler in which the bales or trusses are contained. 2nd. The treatment of bales or trusses of hay, straw or clover by submitting them to the cooking action of high pressure steam contained in a strong closed cylinder or vessel, and prevented from condensing by heat supplied to the said cylinder or vessel independently of the steam admitted to its interior. 3rd. The treatment of bales or trusses of hay, straw or clover by submitting them to the cooking action of high pressure steam containend in a strong closed cylinder or vessel, and also to the drying action of a partial vacuum formed in the said cylinder or vessel in which the bales or trusses are contained. 4th. The treatment of bales or trusses of hay, straw or clover by submitting them to the cooking action of a heated aeriform fluid contained under pressure in a strong closed cylinder or vessel. 5th. Apparatus for the treatment of hay, straw or clover and consisting of a strong cylinder or vessel with a removable end or cover to admit of easy filling and emptying, and a heating coil within the cylinder or vessel or a heating jacket surrounding it, such cylinder or vessel, also having connections by which steam or hot air under pressure may be admitted, and by which air and moisture may be withdrawn by an air pump or its equivalent.

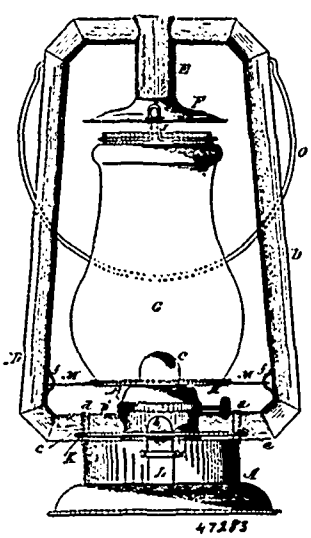
No. 47,282. Window Frame. (*Cadre de fenêtre.*)



Theodore Witte, Chilliwack, British Columbia, Canada, 17th October, 1894; 6 years.

Claim.—1st. The spring C, combined with the stationary side or stile of a window frame to constantly press the movable stile B, against the sashes of said window, substantially as and for the purpose set forth. 2nd. The spring C, lying wholly between the stationary side or stile of a window and attached thereto, arranged to pass the movable stile of the frame against the sashes of the window, combined with the screw nail E, to prevent said movable stile from being pushed entirely away from its relatively adjacent place in the frame when the sashes are removed, substantially as described. 3rd. In a window frame, the combination with a movable stile of the spring C, and stop E, substantially as described, and as and for the purposes set forth. 4th. In a window frame, the combination with the sashes and the frame of the movable stile B, the stop E, and the spring C, arranged to functionally act to hold the said sashes at any point to which they may be raised, substantially as set forth.

No. 47,283. Tubular Lantern. (*Lanterne tubulaire.*)

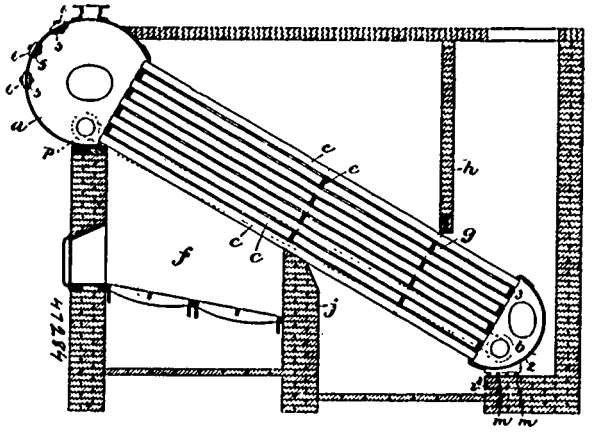


Edwin Thomas Wright, Hamilton, Ontario, Canada, 17th October, 1894; 6 years.

Claim.—1st. In a tubular lantern, a wire ring hinged to the top of the reservoir, and made to pass through the side air tubes or otherwise attached to them by which all the upper portions of the lantern with the globe can be tilted over, for lighting, trimming and filling, substantially as specified. 2nd. In combination, with the wire ring hinged to the reservoir, of a sheet metal spring provided with a notch or recess to receive and hold and lock the hinged wire ring when the globe is in a vertical position, substantially as and for the purpose specified. 3rd. In a tubular lantern, a wire ring K, hinged by the plate J, to the reservoir A, and attached to the air

tubes D, D, and secured or locked by the spring L attached to the reservoir, the said spring constructed with a recess *a*, and incline *b*, substantially as and for the purpose specified. 4th. In a tubular lantern, the combination of the hinge wire K, plate J, reservoir A, spring L, tubes D, D, shields *c*, *c* over the cut of the tubes, all arranged substantially as and for the purpose specified.

No. 47,284. Steam Generator. (*Générateur de vapeur.*)



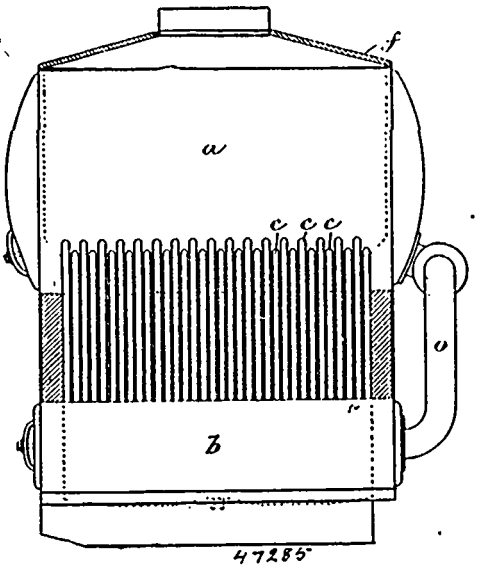
Charles Dell Mosher, New York, State of New York, U.S.A., 18th October, 1894; 6 years.

Claim.—1st. A boiler or steam generator, comprising in its construction a cylindrical water drum, flattened or reduced at its upper portion to form a tube sheet which is flat or approximately flat, a series of straight tubes extending upwardly from said tube sheet substantially at right angles with the water drum, and a cylindrical steam drum to the lower portion of which the upper ends of said tubes are attached, said steam drum being parallel with the water drum and having in its upper portion a plurality of holes provided with detachable plugs or covers, each hole being opposite a group of tubes, so that the tubes can be introduced by passing them through the said openings and the steam drum. 2nd. A boiler or steam generator comprising in its construction an elevated steam drum, a plurality of water drums located below and parallel with the steam drum, each water drum being connected with the steam drum by a series of straight tubes, a furnace or fire-box between the water drums and between the series of tubes, and a baffle-plate extending downwardly from the steam drum at the outer side of each series of tubes, whereby the products of combustion after rising and passing between the inner tubes are diverted downwardly and caused to pass between the cooler or outer tubes, said cooler tubes absorbing heat from the products of combustion just before said products escape to the stack, as set forth. 3rd. A boiler or steam generator, comprising in its construction a water drum, a steam drum located higher than the water drum, a plurality of tubes connecting said drums, a furnace or fire-box at one side of the series of tubes, an outlet for the products of combustion at the opposite side of said series, a baffle-plate extending downwardly from the steam drum at the opposite side of the series of tubes from the fire-box whereby the products of combustion are caused to first pass upwardly along and between the inner tubes of the series and are then guided downwardly along and between the outer tubes of the series, and extensions hinged to said baffle-plates and adapted to be raised and lowered, as set forth. 4th. A boiler or steam generator, comprising a steam drum, a water drum located at a lower point than the steam drum, a series of straight tubes connecting said drums and exposed to the heat from the fire-box, return pipes connecting the end portions of said drums, a part of each return pipe being substantially horizontal, and vertical tubes extending upwardly from the horizontal portions of the return pipes, and connected at their upper ends with a horizontal header communicating with the steam drum.

No. 47,285. Steam Generator. (*Générateur de vapeur.*)

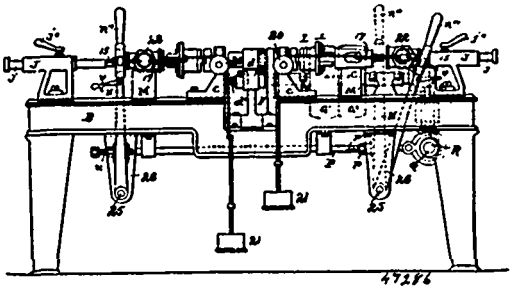
Charles Dell Mosher, New York, State of New York, U.S.A., 18th October, 1894; 6 years.

Claim.—1st. A boiler or steam generator comprising in its construction a plurality of cylindrical water drums, each flattened or reduced at its upper portion to form a tube sheet, a corresponding plurality of series of straight tubes extending upwardly from said tube sheets, and a cylindrical jointless or continuous steam drum attached to the upper ends of said tubes and arranged parallel with the water drums, the diameter of said steam drum being substantially equal to or greater than the length of the longest tubes, so that the tubes may be passed from within the steam drum to their operative positions. 2nd. A boiler or steam generator comprising in its construction a steam drum, a plurality of rigidly supported water drums connected with the steam drum by a corresponding plurality of straight tubes which support the weight of the steam drum, the latter being adapted to conform to the expansion and contraction of said tubes, and one or more flexibly supported water drums located at a higher point than said rigidly supported drums



and connected with the steam drum by tubes, the expansion and contraction of which cause lateral or other movements of the flexibly supported water drum or drums, as set forth.

No. 47,286. Machine for Grinding Cocks Automatically. (*Machine à roder les robinets automatiquement.*)

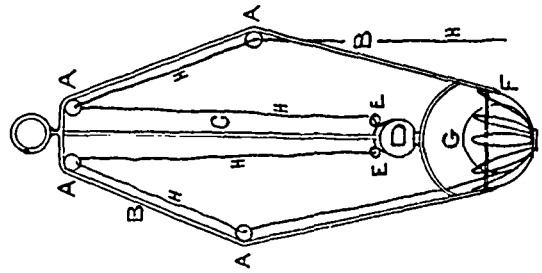


Charles Melvin Jarvis, Erie, Pennsylvania, and Mrs. Ruth Stewart Byron, Stewart, Ohio, all in the U.S.A., 18th October, 1894; 6 years.

Claim.—1st. In a machine for grinding cocks automatically, mechanism, substantially as described, for rotating the plug a complete revolution and fractional part thereof in one direction and an equal rotary motion in the reverse direction, in combination with a lever disposed in axial alignment with said plug-rotating mechanism and provided with means for attachment to one side of a cock-shell or body, a yielding tension device adapted to be connected to the opposite side of the cock-shell or body and serving to normally move the lever toward the plug-rotating devices, and automatic devices to move the lever and the tension device away from the plug-rotating devices at certain intervals, substantially as and for the purposes described. 2nd. In a machine for grinding cocks automatically, the combination with a spindle carrying a chuck, a tail stock, and mechanism for imparting alternately-reversed rotary motions to said spindle and chuck, of the coacting lever and tension device arranged between the tail stock and said chuck, to move in axial alignment therewith, and each provided with fastenings adapted to connect with the respective sides of the cock-shell or body, and automatic devices for imparting reciprocating motion to said lever and tension device, whereby the cock-shell can be momentarily withdrawn from the plug and returned, by the tension device to have proper engagement, under pressure, with said plug, as described. 3rd. In a machine for grinding cocks automatically, the combination with a spindle-carrying chuck and mechanism for rotating the same, substantially as described, of a lever having means for attachment to a shell or body, the tension devices also having means for attachment with the shell or body, and mechanism for automatically moving the lever and tension devices, a limited distance away from the chuck at certain periods, substantially as and for the purposes described. 4th. In a machine for grinding cocks automatically, the combination with means for giving to the plug alternately-reversed rotary motions of equal period, of a shell-sustaining device embodying a movable lever to be connected to one

side of a shell, and a tension device to be connected to the opposite side of the shell, and which parts co-act with the shell to hold the same under tension upon the plug, and enable the shell to be withdrawn wholly from the plug, and mechanism for imparting to the shell-sustaining devices a limited reciprocating motion to partially withdraw the shell from the plug at certain regular periods, substantially as and for the purposes described. 5th. In a machine for grinding cocks automatically, the combination of the spindles each provided with the chucks, the tail-stocks disposed oppositely to the chucks, a driving mechanism common to said spindles and geared to impart alternately-reversed rotations thereto for equal periods, the shell-sustaining lever and tension device provided with means for engaging with the respective sides of a cock shell and disposed between each of the chucks and its corresponding tail-stock, in axial alignment therewith, and mechanism operated by the driving mechanism and connected with the shell-sustaining levers to impart reciprocating motion thereto in line with the spindles and tail-stocks, substantially as and for the purposes described. 6th. In a machine for grinding cocks automatically, the combination of the chuck-carrying spindle, the tail-stocks in line with said spindle, a driving mechanism geared to said spindle to impart alternate-reversed rotary motions thereto, the co-acting lever and tension device between each chuck and its tail-stock, and provided with means for engaging opposite sides of the cock shell, a vertical shaft geared to said driving mechanism, a cam-shaft geared to the vertical shaft, and connections between the levers and said cam-shaft to impart reciprocating motion to each lever at certain periods during the rotation of the corresponding chuck, substantially as and for the purpose described. 7th. In a machine for grinding cocks automatically, the combination of the chuck-carrying spindle, a tail-stock, a driving mechanism for imparting alternately-reversed rotary motions to the spindle, the co-acting lever and tension device having means for engagement with the cock shell, and the transmitting automatic mechanism geared to the driving mechanism and provided with adjustable connections for said vibrating lever to vary the throw or movement thereof, substantially as and for the purposes described. 8th. In a machine for grinding cocks automatically, the combination with the chunk-carrying spindles, the tail-stocks therefor, and the driving mechanism geared to said spindles, of the co-acting lever and tension device between each chuck and its tail-stock, and having means for engaging with opposite sides of the cock shell, the vertical shaft geared to the driving mechanism, the transverse cam-shaft geared to said vertical shaft, and the reciprocating rods actuated by said cam-shaft, and having means engaging with the levers to vibrate the same, for the purposes described, substantially as set forth. 9th. In a machine for grinding cocks automatically, the combination with the parallel chuck-carrying spindles, of a driving shaft between said spindles, the oscillating segments, each pivoted at one end and having its arc-shaped surface geared to one of the spindles, connections between the driving shaft and the segments to impart oscillating motion simultaneously thereto, a tail-stock opposite to each chuck, a coacting lever and tension device constituting a shell-sustaining device between each chunk and its tail-stock, and means for automatically reciprocating each lever and its tension device, substantially as and for the purposes described. 10th. The combination with a recessed spindle, and a tail-stock in line therewith, of a slidable non-rotatable chuck fitted loosely on said recessed end of the spindle, a spring seated in the said recessed spindle and normally pressing against the slidable chuck, and means for making the clutch fast to the spindle by the adjustment of the work between the tail-stock and the slidable chuck, substantially as and for the purposes described. 11th. The combination with a spindle, and a tail-stock in alignment therewith, of a non-rotatable chuck loosely fitted on said spindle and slidably connected thereto, a spring normally acting on the chuck to force the same to the limit of adjustment permitted by the slidable connection between the chuck and spindle, and a clutch having one member fast to the spindle and the other member fast to the slidable chuck, and said members being spaced to engage with each other by the endwise movement of the chuck, as the work is adjusted between the chuck and tail-stock, substantially as and for the purposes described. 12th. The combination of a spindle, a slidable chuck fitted loosely thereon and connected by a slidable joint therewith to permit the chuck to have a limited movement on the spindle and to enable the latter to rotate without rotating the chuck, a clutch having its members fast with the spindle and the chuck respectively, and a spring interposed between the spindle and the chuck, for the purposes described, substantially as set forth. 13th. The combination of a spindle provided with a hollow spring-seat in its end, a slidable chuck fitted loosely upon said end of the spindle and connected by a slide-joint therewith, a spring seated in the hollow end of the spindle and against the chuck, and the clutch having one member fast with the loose chuck, and the other member fast with the spindle, substantially as and for the purposes described. 14th. The combination with a spindle, a chuck and a tail-stock, of the slotted lever arranged in line with the spindle, and adapted to be fitted on the tail-stock, devices for connecting said lever with a shell or body of the cock, and the fixed rests disposed to engage with the shell or body and prevent it from rotating on the same as the shell is fitted upon the plug, substantially as and for the purposes described. 15th. In a machine for grinding cocks automatically, the combination with the spindles, the chucks, and the tail-stocks, of the levers and weighted chains arranged to sustain the shells or bodies of the cocks in operative positions relative to the plugs between said chucks and tail-stocks, the transverse shaft having the cams for imparting limited movement to the series of levers during certain periods of the grinding operations, a power shaft, and a counter-shaft geared to the power shaft and to the transverse shaft, substantially as and for the purposes described. 16th. In a machine for grinding cocks automatically, the combination with mechanism for rotating the plugs, of the shell-sustaining devices having the levers, the power shaft, a transverse cam-shaft driven through intermediate gearing from the said power shaft, reciprocating rods operated by cams on the transverse shaft, and adjustable connections between said rods and said levers to vary and regulate the throw of the levers and the movement of its shell-sustaining devices, substantially as and for the purposes described. 17th. In a machine for grinding cocks automatically, the combination with mechanism for imparting alternately-reversed rotary motions to a series of plugs, of the shell-sustainmg devices having the levers, a transverse shaft provided with cams or eccentrics, the reciprocating rods having means for rocking the levers of the shell-sustaining devices and arranged to be operated by the cams or eccentrics of the transverse shaft, a power shaft, and a counter-shaft geared to the power and transverse shafts to actuate the rods and levers at certain periods during the rotations of the plug mechanism, substantially as and for the purposes described.

No. 47,287. Twine Lifter. (*Monte-fil.*)

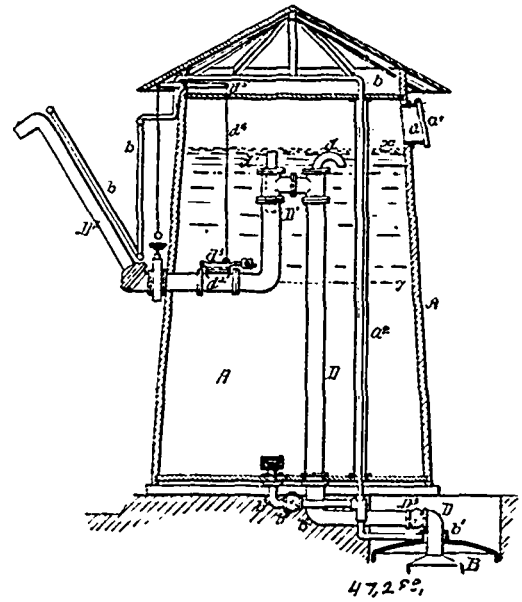


47287

John Watson, Nesbitt, joint inventor and assignee of Alexander A. Armitt, Brandon, all in Manitoba, Canada, 18th October, 1894; 6 years.

Claim.– The weight D sliding on the vertical rod C which when the cord is passed through the rings A and the eyes E and the end of cord pulled the weight D will be raised to the top of vertical rod C and when the end of cord is let go the weight D will fall to bottom of vertical rod C lifting the end of twine or cord out of the way, substantially as hereinbefore set forth.

No. 47,288. Storage Reservoir.
(*Réservoir d'accumulateur.*)



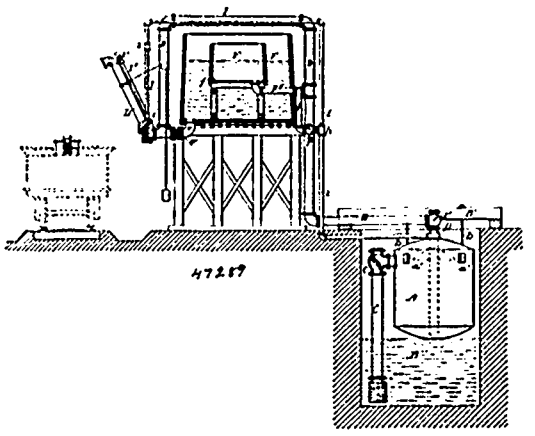
47288

The Automatic Water Tank Company, Camden, New Jersey, assignee of Paul Sattlkau and Herman Bernhard Winkelmann, both of Philadelphia, Pennsylvania, all in the U.S.A., 18th October, 1894; 6 years.

Claim.—1st. The combination of the storage reservoir, the vacuum tank, a discharge pipe for the water elevator extending to the storage

reservoir, a discharge pipe for the storage reservoir, an emergency valve in said pipe, said valve being situated some distance above the bottom of the water reservoir so that a body of water will be retained in the reservoir, with a spray pipe communicating with the reservoir below the valve, substantially as described. 2nd. The combination with a vacuum tank, the reservoir, the discharge pipe for the tank, said reservoir being connected to the discharge pipe some distance above the bottom thereof, a valve in said connection and a spray pipe communicating with the reservoir below said connection and extending to the vacuum tank, substantially as described. 3rd. The combination of the storage reservoir, the discharge pipe, the vacuum tank, an overflow opening for the reservoir in the discharge pipe, so that the overflow water from the reservoir will pass through the discharge pipe to the tender and not be wasted, substantially as described. 4th. The combination of the storage reservoir, the vacuum tank, the discharge pipe therefor, an overflow pipe for the reservoir, said overflow pipe entering the discharge pipe of the storage reservoir and through which the overflow water will pass to the tender, substantially as described.

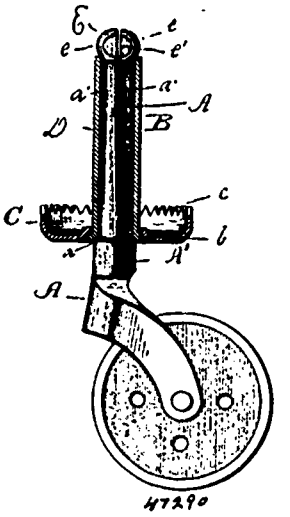
No. 47,289. Water Elevator. (*Elévateur pour l'eau.*)



The Automatic Water Tank Company, Camden, New Jersey, assignee of Paul Sattelkau and Herman Beinhard Winkelmann, both of Philadelphia, Pennsylvania, all in the U.S.A., 18th October, 1894; 6 years.

Claim.—1st. The combination in a steam vacuum water elevator, of the steam pipe on the tender, and a valveless pipe for conveying steam from the tender pipe to the vacuum tank, said valveless conveying pipe having means for checking the flow of air, but allowing the free flow of steam to the vacuum tank. 2nd. The combination in an automatic water elevator, of the vacuum tank, the inlet and outlet thereof, a reservoir above the tank, a pipe connecting the reservoir and the tank so that after the tank has been partially filled by water drawn through the inlet pipe it will be completely filled by water flowing from the reservoir by gravity, substantially as described. 3rd. The combination in an automatic water elevator, of the reservoir a vacuum tank, an inlet for said tank, and an outlet therefor also communicating with the reservoir, and a steam pipe communicating with the tank and with the reservoir, substantially as described. 4th. The combination in an automatic water elevator, of the reservoir, the vacuum tank, an inlet therefor, a valve in said inlet pipe, an outlet pipe for the tank communicating also with the reservoir, a valve in said pipe and a steam pipe communicating with the tank and with the reservoir, and a valve between the said pipe and reservoir, the whole so constructed that when the vacuum tank is partially filled by the water entering the inlet pipe it will be completely filled and the valves water sealed by water from the reservoir, substantially as described. 5th. The combination in an automatic vacuum water elevator, of the vacuum tank, suction pipe therefor and discharge pipe, a spray reservoir mounted above the tank, a steam pipe connected to the vacuum pump, said spray reservoir being connected to the discharge pipe, and to the vacuum tank, substantially as described. 6th. The combination of a vacuum tank, suction pipe therefor, the discharge pipe, the steam pipe connected to the tank, an elevated spray reservoir, the pipe connecting said spray reservoir with the discharge pipe of the vacuum tank, and a pipe connecting the spray reservoir with the steam pipe, substantially as described. 7th. The combination of the steam vacuum water tank, a discharge pipe entering the tank at the top, and extending to a point near the bottom of the tank, a collar around the discharge pipe at the top of the vacuum tank forming a steam space communicating with the tank and a steam pipe connected to said collar, substantially as described. 8th. The combination of the vacuum water tank, the discharge pipe entering the tank at the top, a collar around said discharge pipe, situated at the top of the tank, a spray device mounted on the discharge pipe below the collar, and a pipe communicating with the steam supply and the spray reservoir so that the steam and spray water will enter the tank through the collar, substantially as described. 9th. The combination, in a vacuum water tank, of the suction pipe, its valve, the dischage pipe, its valve, the steam inlet pipe, with an elevated spray water reservoir, connected to the discharge pipe, and also connected to the steam pipe, the check valve to prevent the steam from entering the spray reservoir, but which will allow the flow of water from the spray reservoir to the tank, substantially as described. 10th. The combination in a vacuum tank, of the suction pipe and discharge pipe therefor, with a steam pipe, a spray water reservoir connected to said steam pipe and to the discharge pipe, said steam pipe being enlarged from the point where it connects with the spray reservoir to the vacuum tank, substantially as described. 11th. The combination of the vacuum tank, the suction pipe, the discharge pipe, steam inlet pipe, the storage tank mounted above the vacuum tank, a spray water reservoir coupled to the discharge pipe and the steam pipe, and communicating with the storage tank, substantially as described. 12th. The combination in a vacuum tank, of the suction pipe therefor, discharge pipe, a storage tank, said discharge pipe extending above said storage tank, a steam pipe also extending above the storage tank and connected to the vacuum tank, a spray reservoir connected to the discharge pipe and to the steam pipe, and communicating with the storage tank, substantially as described. 13th. The combination of the vacuum tank, its suction pipe, the discharge pipe therefor, and the steam pipe, a storage tank, a spray water reservoir mounted within the storage tank and communicating therewith, connecting pipe connecting the spray water reservoir with the discharge pipe of the vacuum tank and with the steam pipe, substantially as described. 14th. The combination of the suspended vacuum tank, its discharge pipe, and suction pipe, a storage tank, spray reservoir mounted within the storage tank and connected to the discharge pipe and with the storage tank, said discharge pipe extending above the storage tank, and terminating below said tank, in the form of a goose neck, a valved outlet for the storage tank, communicating with the said discharge pipe, a steam inlet pipe communicating with the vacuum tank, and connected to the spra water reservoir, substantially as described.

No. 47,290. Caster. (*Roulette pour meubles.*)



William S. Gunn, assignee of Lemi Bradley Denton, both of Grand Rapids, Michigan, U.S.A., 18th October, 1894; 6 years.

Claim. In a caster attachment, the combination with the socket, of a spindle having an enlarged head flattened upon two opposite sides and slitted vertically at right angles to said flattened sides, substantially as described.

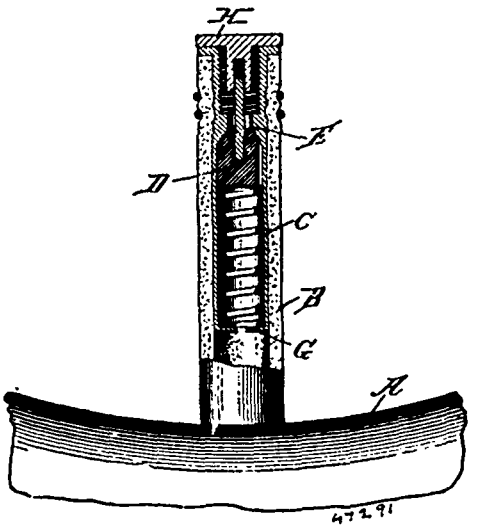
No. 47,291. Valve for Pneumatic Tires.

(*Soupape pour bandage pneumatigue.*)

Fred W. Morgan and Rufus Wright, both of Chicago, Illinois, U.S.A., 18th October, 1894; 6 years

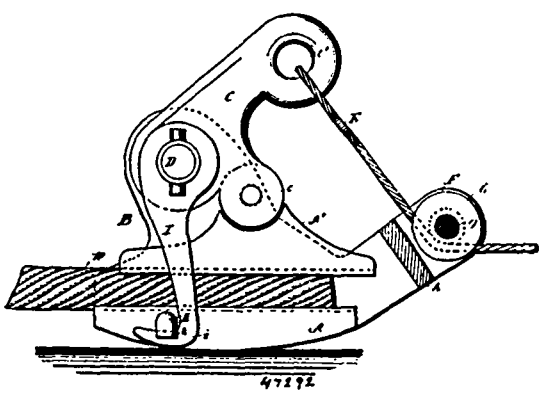
Claim.—1st. A pneumatic tire provided with a valve for the purpose set forth, a shell or casing inclosing the valve and adapted for connection with an air-pump, a threaded valve-stem and a cap for engaging the valve stem so as to hold the valve tight upon the seat; substantially as described. 2nd. The combination with a pneumatic tire of the shell or casing C containing a valve, and provided with an annular rib c^5, said shell being fitted within a flexible tube B which connects with the interior of the tire, substantially as and for the purpose described. 3rd. The shell or casing C containing a valve and spring for the purpose set forth, and provided at one end with one or more pliable lips G which can be bent into position to retain the spring within the shell or casing, and also bent back to allow the spring to be removed, substantially as described. 4th. The combi-

nation with a pneumatic tire provided with the flexible tube B, of the shell C having at one end a three-threaded socket, the spring-



controlled valve confined within the shell or casing and having a threaded stem, and the cap H having a stem portion h^1 provided with a threaded socket, substantially as and for the purpose described.

No. 47,292. Cable Grip. (*Grippe pour câbles.*)

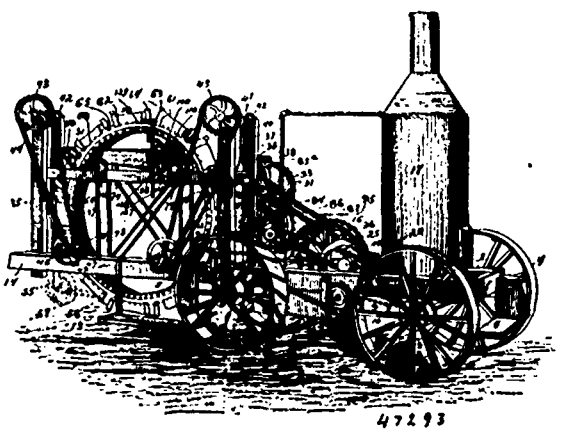


Gilbert Gagnon, Nanaimo, British Columbia, Canada, 18th October, 1894; 6 years.

Claim.—1st. A cable grip, comprising a fixed jaw, a movable jaw, and a lever to which the movable jaw is pivoted, the movable jaw having a movement bodily in an arc of which the fulcrum of the lever is the centre, and having also a rocking movement on its own pivot, substantially as described. 2nd. A cable grip, comprising a body having a fixed jaw, a movable jaw arranged in connection therewith, a lever fulcrumed at one end to the body, to which lever the movable jaw is pivoted at a point intermediate of the fulcrum and free end of the lever, and means for connecting the free end of the lever with the log or other object to be hauled, substantially as described. 3rd. A cable grip, comprising a suitable body, gripping jaws, a lever to which one of said jaws is pivoted, at a point intermediate the fulcrum and free end of the lever, and means for connecting the free end of the lever with a log or other object to be hauled, substantially as described. 4th. A cable grip, comprising a suitable body having a fixed jaw, a movable jaw arranged in connection therewith, a retainer consisting of an arm pivoted above the jaws and adapted to range across the opening between the jaws at the side thereof, and means for engaging the arm in its closed position, substantially as described. 5th. A cable grip, having a rounded surface forming a runner, and provided with gripping jaws, substantially as described. 6th. The combination in a cable grip, of a body having a fixed jaw and formed with a rounded surface on the under side to form a runner, the body further being provided with a rearwardly-extending arm, a lever fulcrumed on the body above the fixed jaw, a movable jaw pivoted on the lever between its fulcrum and free end, a rope or the like for connecting the lever with the log or other object to be hauled, and an idler on the rearwardly-projecting arm of the grip, around which said rope passes, substantially as described. 7th. The combination in a cable grip, of a body having a fixed jaw and provided with a rearwardly-extending arm, a lever fulcrumed on the body at the upper end of the latter and formed with arms at its under side and with an eye at its free end, a movable jaw pivoted on the lever intermediate of its fulcrum and free end, an idler pulley on the rearwardly-extending arm of the body, an L-shaped or forked formation on said arm, consisting of a branch arm, which ranged by its one arm across the face or periphery of the idler, and is united to the rearwardly extending arm of the body, a retainer arm pivoted at the upper end of the body, adapted to swing across the jaws at the outside and formed with a hooked end, and a catch stud for said arm, substantially as described.

No. 47,293. Traction Ditcher.

(*Machine à fossoyer à traction.*)

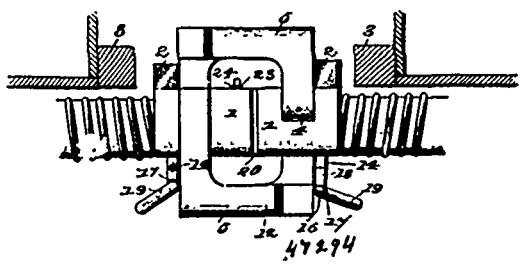


James B. Hill, Bowling Green, Ohio, U.S.A., 18th October, 1894; 6 years.

Claim.—1st. In a traction ditcher, the combination of the traction engine having a rearwardly extended frame and guide uprights extended above said frame, an open centre revolving ditching or excavating wheel mounted for vertical adjustment between the guide uprights and geared with the engine, said wheel discharging into its open centre, a side delivering apron or carrier having its inner end arranged in the open centre of the wheel under the discharging point thereof, an automatically operating cleaning device for relieving the wheel from its load at the point of discharge, and a dirt deflecting apron arranged at one side of the engine frame beyond the outer end of the carrier, substantially as set forth. 2nd. In a traction ditcher, the combination, with the traction engine, and the engine frame having a rear extension, of separate pairs of guide uprights extended above said frame extension, a wheel frame mounted for vertical adjustment between said guide uprights, an axleless revolving ditching or excavating wheel arranged to work within said wheel frame, and a series of supporting wheels or rollers carried by the wheel frame and arranged concentrically with the ditching or excavating wheel to form a journal support therefor, certain of said supporting wheels or rollers being adjusted, substantially as set forth. 3rd. In a traction ditcher, the combination, with the engine propelled frame, of the front and rear pairs of guide uprights, an open horizontal wheel frame mounted for vertical adjustment between said guide uprights, a series of combined supporting and centreing rollers supported in position above and below the wheel frame, the lower set of rollers being adjustably supported, an axleless ditching or excavating wheel mounted to turn on said rollers, and having an open centre and a side delivering apron adjustably mounted on the wheel frame and having its fixed end disposed under the discharging point of the ditching or excavating wheel, within the open centre thereof, substantially as set forth. 4th. In a ditching machine, the combination with the wheeled frame, of the upright guide frame, the horizontal vertical adjustable wheel frame mounted for vertical adjustment in said guide frame and crrrying at one end an upright standard frame, a bucket ditching or excavating wheel supported in the wheel frame a wheel standard adapted to be detachably mounted in the lower end of said standard frame and carrying a rear supporting wheel, and a forwardly curved rear dirt shoe attached to said wheel standard and disposed around the rear lower portion of the ditching or excavating wheel, substantially as set forth. 5th. In a traction ditcher, the combination of a traction engine having front and rear pairs of guide uprights extended above its frame, a vertically adjustable wheel frame mounted for vertical adjustment between said guide uprights and carrying a series of rollers, a bucket ditching or excavating wheel mounted to revolve on the rollers of the wheel frame, adjusting shafts journalled on top of said guide uprights and carrying at one end sprocket-wheels, adjusting chains winding and unwinding on said shafts and attached to opposite ends of said wheel frame, short operating shafts conveniently journalled at one side of the engine frame and carrying small sprocket-wheels at their inner ends and operating hand-wheels at their inner ends and operating hand wheels at their outer ends, operating chains passing over said small sprocket-wheels and those at one end of the adjusting shafts, and a pawl and ratchet-check device for each of said short operating shafts,

substantially as set forth. 6th. In a ditching machine, a horizontal vertically adjustable wheel frame, separate sets of upper and lower combined supporting and centering rollers mounted above and below the wheel frame, the lower set of rollers being adjustable a revolving ditching or excavating wheel having circular rack side flanges engaged at their inner edges by said rollers, dirt buckets, and cutters in advance of said buckets, and suitably operated cog-wheels arranged to mesh with the teeth of said rack flanges, and provided at one side with roller off sets engaging under the inner edges of the rack flanges to form a part of the wheel support, substantially as set forth. 7th. In a ditching machine, the combination with the wheeled engine propelled frame having a rear frame extension, of front and rear pairs of guide uprights extended from said frame extension, and the front pair of which are provided with vertical guide grooves, a rectangular horizontally arranged wheel frame mounted for vertical adjustment between said guide uprights and provided at its front end with side guide tongues engaging said vertical guide grooves and at its rear end with short guide arms sliding against the inner faces of the rear guide uprights, suitably arranged supporting rollers mounted above and below the wheel frame, a bucket ditching or excavating wheel geared with the propelling engine and revolving on said supporting rollers, and a detachable wheel attachment connected with the rear end of the wheel frame and carrying a forwardly curved dirt shoe disposed around the rear lower portion of the ditching or excavating wheel, substantially as set forth. 8th. In a ditching machine, the combination of the horizontal wheel frame carrying upper and lower sets of supporting rollers, a revolving ditching or excavating wheel having side flanges turning on said rollers and comprising parallel spaced wheel rims, dirt buckets connecting the top edges of the rims and provided with back plates arranged in the space between the rims, and ditch cutters in advance of the buckets, and a suitably supported stationary segmental bottom plate arranged in the space between the wheel rims and extending to a point above the centre of the wheel, substantially as set forth. 9th. In a ditching machine of the class described, the combination with the partial stationary bottom plate, of the ditching wheel having parallel spaced wheel rims, U-shaped dirt buckets connecting the outer top edges of the rims and spanning the space between the same, said buckets having transverse back plates arranged between the rims, U-shaped ditch cutters connecting the spaced rims in front of the buckets and pairs of straight side cutters attached to the wheel rims between each ditch cutter and the next succeeding bucket, substantially as set forth. 10th. In a ditching machine of the class described, the combination of the vertically adjustable wheel frame carrying separate upper and lower sets of combined supporting and centreing rollers, a revolving ditching wheel turning on said rollers and having a circumferential series of bottomless dirt buckets, a segmental bottom plate attached to said wheel frame at one side of its centre and extending up to a point above the centre of the wheel beyond which the buckets thereof are emptied of their contents, and a side delivery apron or carrier adjustably mounted at its inner end on the wheel frame inside of the upper portion of the revolving ditching wheel, substantially as set forth. 11th. In a ditching machine of the class described, the horizontal vertically adjustable wheel frame, a revolving bucket ditching wheel turning within the frame and provided at its opposite sides with circular rack flanges suitably arranged cog-wheels geared with driving devices and meshing with the teeth of said rack flanges, an upper set of supporting rollers mounted above the wheel frame and bearing under the inner edges of said rack flanges, and V-shaped brace frames adjustably attached at their upper end to the horizontal wheel frame and carrying at their lower ends a lower set of rollers adapted to also be held against the inner edges of said rack flanges, substantially as set forth. 12th. In a ditching machine of the class described, the combination of the wheeled engine frame having a rear frame extension, the propelling engine mounted on the engine frame and having a main drive shaft, a short counter drive shaft geared directly with one of the traction wheels of the engine frame and adapted to be geared with the engine drive shaft when the ditching devices are inactive, the revolving ditching wheel mounted for vertical adjustment and revolution on the rear frame extension, the turning shaft for said ditching wheel, suitably arranged upper and lower gear shafts, the lower of which is constantly geared with the turning shaft of the ditching wheel and the upper gear shaft and normally out of gear with the engine drive shaft, and means for throwing the upper one of said gear shafts into gear with the counter drive shaft when the lower one of said gear shaft is in gear with the engine drive shaft, substantially as set forth. 13th In a traction ditcher, the combination with the engine propelled frame, of the horizontal wheel frame mounted for vertical adjusment above the engine frame, a revolving ditching or excavating wheel supported for rotation within the wheel frame and having circular rack flanges on its opposite sides, a turning shaft mounted on the wheel frame and geared with the engine propelling devices, said shaft carrying cog-wheels meshing with the teeth of said rack flanges and provided at one side with roller off-sets engaging under the inner edges of the rack flanges to form a part of the support for the wheel, a laterally extended dirt carrier or apron mounted at its inner end on the wheel frame under the discharge of the ditching wheel, and gearing connected with said carrier apron and the tuning shaft for the ditching wheel, substantially as set forth. ' th. In a machine of the class described, the combination of the revolving ditching or excavating wheel having bottomless dirt buckets, a segmental bottom plate to inclose the bottom of the buckets when loaded, and an automatically operating bucket cleaner, adapted to work into each bucket as it passes beyond said bottom plate, substantially as specified. 15th. In a ditching machine of the class described, the combination of a stationary segmental bottom plate, a suitably supported ditching wheel turning over said bottom plate and having bottomless dirt buckets inclosed at the bottom when loaded, by said bottom plate, a spring-lifted bent cleaning arm supported in position at the upper terminal of the segmental bottom plate and adapted to work into each bucket as it discharges beyond said bottom plate, and a series of ...p-levers suitably connected to one end of said cleaning arm, the outer of which lever is engaged by the back plate of each bucket to impart a vibrating motion to the cleaning arm, substantially as set forth. 16th. In a traction ditcher, the combination with a traction engine, having a guide frame at the rear end thereof, of a horizontal wheel frame vertically adjustable in said guide frame and carrying separate sets of combined supporting and centreing rollers, a bucket ditching wheel turning on said rollers, within the wheel frame and discharging at the top, a laterally extended dirt carrier or apron adjustably mounted at its inner end on the wheel frame directly beneath the discharging point of the buckets thereof, and a dirt deflecting apron suitably arranged at one side of the engine frame beyond the outer end of said carrier, substantially as set forth. 17th. In a machine of the class described, the combination of the engine p. pelled frame having a drop at one side, a bucket ditching wheel mounted for adjustment and revolution on the frame, a laterally extended dirt carrier mounted within the top discharge portion of the wheel and adapted to work into the side drop of the frame as said ditching wheel is lowered, and a dirt deflecting apron adjustably suspended at one side of the frame beyond the outer end of the dirt carrier, substantially as set forth. 18th. In a ditching machine, the combination with the vertically adjustable wheel frame and the top discharging bucket ditching wheel supported for rotation within said wheel-frame, of a carrier frame pivotally mounted at its inner end on said wheel frame and having adjustable bearing arms at its outer end, and adjustable connections between the carrier frame and said wheel frame to adjust the inclination of the carrier-frame, carrier rollers mounted at each end of the carrier frame, and the outer of which is journalled in said bearing arms to be adjusted thereby, and the endless dirt carrier mounted on said rollers, substantially as set forth. 19th. In a ditching machine, the combination of a bucket ditching-wheel discharging at the top, a laterally extended dirt carrier arranged at its inner end under the top discharging point of said wheel, suitably arranged bracket arms, a dirt apron or plate having pivots at its upper end mounted in said bracket arms, said dirt apron or plate being disposed beyond the outer end of said dirt carrier, and means for adjusting the lower swinging end of said apron or plate, substantially as specified. 20th. In combination with suitable levelling stakes or targets, of a traction ditching machine having vertically adjustable ditching devices, a fixed bracket arm secured at one side of the machine frame, and a sight rod adjustably mounted for vertical movement in said brackets and provided with an upper angled sight-end adapted to be kept in line with said levelling stakes or targets to insure a grading of the ditch, substantially as set forth. 21st. The traction ditching machine, the wheeled frame carrying the traction and ditching devices, and the rear axle of which carries loose traction-wheels on its ends, a sprocket-wheel mounted on one end of the rear axle adjacent to one of the traction-wheels and geared with the propelling devices, said sprocket-wheel having a ratchet hub at one side, a double U-shaped ratchet-dog pivotally mounted at the inner side of one of the traction wheels and provided with a short arm extension, a coiled spring attached at one end to the short arm extension of said dog and adapted to have its other end connected to ...point of attachment at either side of the pivot of said dog to shift the engagement thereof with the ratchet hub, substantially as set forth.

No. 47,294. Car Coupler. (*Attelage de chars.*)

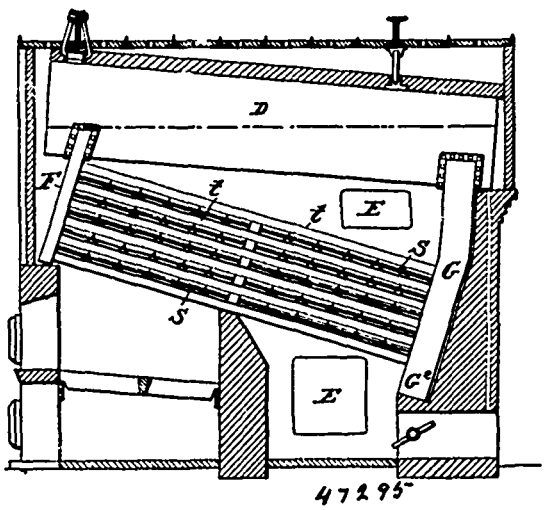


John C. Hurley, Fairhaven, Washington, U.S.A., 18th October, 1894; 6 years.

Claim.—1st. In a car-coupling, the combination of a draw-head, and a jaw pivotally mounted on the draw-head and disposed transversely thereof, and comprising an angular shank having a horizontal portion extending across the top of the draw-head and provided with vertical arms one of which extends upward from one end

of the horizontal portion and the other depending from the opposite end of the horizontal portion at the adjacent side of the draw-head and forwardly extending hooks arranged above and below the draw-head and projecting from the arms of the shank, substantially as described. 2nd. In a car coupling, the combination of a draw head, and a jaw pivotally mounted on the draw head at one side thereof, and comprising a shank extending across the top, and one side of the draw head, and the hooks located above and below the draw-head and carried by the shank, substantially as described. 3rd. In a car coupling, the combination of a draw-head provided with a transverse recess extending across the top and one side of it, and a jaw having a horizontal, and a vertical portion arranged in the recess of the draw head and pivoted thereon, said jaw being provided with upper and lower hooks disposed opposite each other and located above and below the draw-head at the top and bottom of the jaw, substantially as described. 4th. In a car coupling, the combination of a draw-head provided with a recess, a jaw pivoted in the recess and capable of swinging therein, and a hook revolubly mounted on the jaw and arranged to engage the draw-head and capable of being turned out of such engagement, whereby the jaw may be held against swinging and be released for uncoupling, substantially as described. 5th. In a car coupling, the combination of a draw-head provided with a recess extending across the top and one side of it, a jaw having a horizontal and a vertical portion and arranged in the recess and pivoted therein at one end of the horizontal portion, coupling hooks carried by the jaw, and a securing hook journalled on the jaw and arranged to engage and disengage the draw-head, substantially as described. 6th. In a car coupling, the combination of a draw-head provided with a stop, a jaw pivotally mounted on the draw head and extending across the top and one side of the same and provided with upper and lower hooks, and an operating rod journalled on the jaw and carrying a catch arranged to engage the stop of the draw-head, and adapted to be carried out of such engagement by turning the rod, substantially as described.

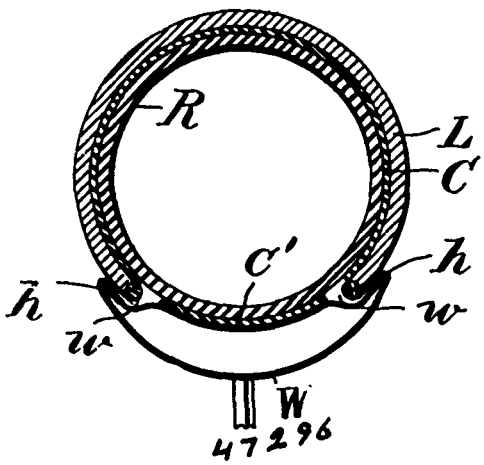
No. 47,295. Steam Boiler. (*Chaudière à vapeur.*)



Charles Whiting Baker, Montclair, New Jersey, U.S.A., 18th October, 1894; 6 years.

Claim.—1st. The construction and arrangement of the headers, in connection with the parallel tubes, substantially as and for the purpose hereinbefore set forth. 2nd. The method and means of staying the opposite parallel surfaces of the headers, substantially as and for the purposes set forth. 3rd. The construction and arrangement of the means for stiffening the plates against bulging, substantially as and for the purpose herein set forth. 4th. The arrangement of stays with the openings communicating with the headers, substantially in the manner and for the purposes above set forth. 5th. The construction and arrangement of the pipes extending from the mud drum to the water level, and the means for introducing the supply water with water from the boiler, substantially as and for the purposes set forth. 6th. The means for heating and purifying the entering feed water and collecting the sediment, comprising a pipe near the water level inside the boiler arranged to receive the water from the surface of the water in the boiler, and means for introducing the feed water into said pipe, substantially as and for the purposes set forth. 7th. The method and means of separating the entrained water from the steam prior to its exit from the boiler by leading steam through a pipe in the interior of the boiler provided with obstructions, and collecting the entrained water and returning it to the boiler by mechanism impelled by the flowing steam, substantially as and for the purposes herein set forth, with special reference to figs. 13 to 15. 8th. As a means for separating the entrained water from the steam prior to its exit from the boiler, a pipe having baffle plates, said pipe being attached to the outlet orifice for the steam and having a chamber or chambers opened alternately to the interior of the separator and to the steam space in the boiler, substantially as and for the purpose set forth, with special reference to figs. 13 and 15. 9th. The within described improvement in increasing the efficiency of steam generators, consisting in carrying the heated gases that are not in direct contact with the boiler plates or tubes in contact with plates or radiators arranged in proximity to the tubes throughout the generator and in position to radiate the heat to said boiler plates or tubes. 10th. The use of radiators arranged in connection with the boiler plates or tubes, for the purpose of radiating the heat to the said plates or tubes, substantially in the manner set forth, with special reference to figs. 19 to 30. 11th. The improvements in the method and construction of steam generators, having the objects herein set forth and for the purposes stated.

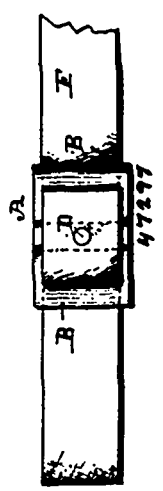
No. 47,296. Pneumatic Tire. (*Bandage pneumatique.*)



Henry Wood and Isaac Wood, both of Kingston, Ontario, Canada, 18th October, 1894; 6 years.

Claim.—In a cover or tread for a pneumatic wheel tire, the combination of a strip of leather and a lining of canvas secured to the edges by stitching and the edges provided with means of retaining them in the wheel rim, substantially as set forth.

No. 47,297. Buckle. (*Boucle.*)



Preston B. Southworth, San Francisco, California, U.S.A., 18th October, 1894; 6 years.

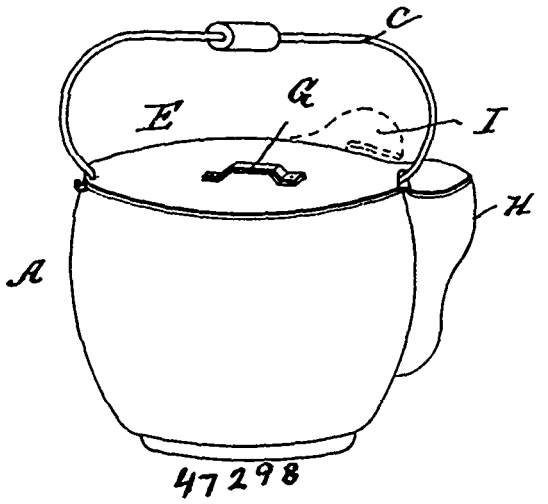
Claim.—A buckle comprising oppositely disposed Y-shaped side pieces, with upper upwardly inclined arms having their ends connected by cross-bars, a lower bar connecting the lower reduced ends of said Y-shaped side pieces, and a central upper bar, extending from the crotch of one side piece to that of the other and having an upwardly projecting stud, the said bar carrying the stud, being below the level of the cross bars connecting the ends of the arms of the side pieces, substantially as described.

No. 47,298. Kettle. (*Chaudron.*)

Belle C. Sabin, Minneapolis, Minnesota, U.S.A., 18th October, 1894; 6 years.

Claim.—1st. The herein described cooking kettle, substantially as described. 2nd. A cooking kettle having the side lip open at the

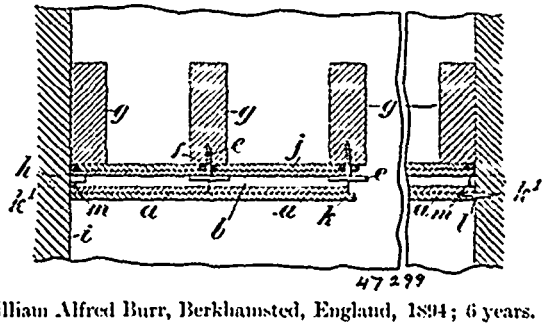
top and opening into the lower part of the interior of the kettle, and the kettle having a projection to cover the open top of the lip, substantially as described. 3rd. A cooking kettle having a side lip



opening into the lower part of the kettle and the kettle cover carrying means for closing the mouth or open top of said slide and so arranged that the lip can be opened without removing the cover from the kettle proper, substantially as described. 4th. A kettle having the side discharge or mouth, and a bail, and the cover having a lateral projection to close said mouth, and a slot to receive one end of the bail, as and for the purpose set forth. 5th. In a cooking kettle, the combination of graduated strainers made to fit in grooves or guides on the inside of the kettle covering the opening between the kettle and lip, substantially as described.

No. 47,299. Fireproof Ceiling.

(*Plafond à l'épreuve du feu.*)



William Alfred Burr, Berkhamsted, England, 1894; 6 years.

Claim.—1st. A flat tubular tile for forming fireproof ceilings, such tiles being formed with semi-circular notches for receiving the pins for fixing turn-buttons or clips, as and for the purpose set forth. 2nd. A fireproof ceiling formed of flat tubular tiles having semi-circular notches such as described, the said tiles being fixed to ordinary floor joists by means of turn buttons or clips such as c, with washers or distance pieces f, between the upper surfaces of the tiles and the underside of the floor joists, the upper and under side of the tiles being covered or coated with suitable cement or plaster, substantially as hereinbefore described and illustrated in figures 1, 2 and 3, of the accompanying drawing. 3rd. A flat tubular tile for fireproof ceilings provided with grooves or openings such as a, as and for the purpose hereinbefore described and as illustrated. 4th. In a fireproof ceiling as described, a clip consisting of a turn button having a screwed pin or shank, as and for the purposes described.

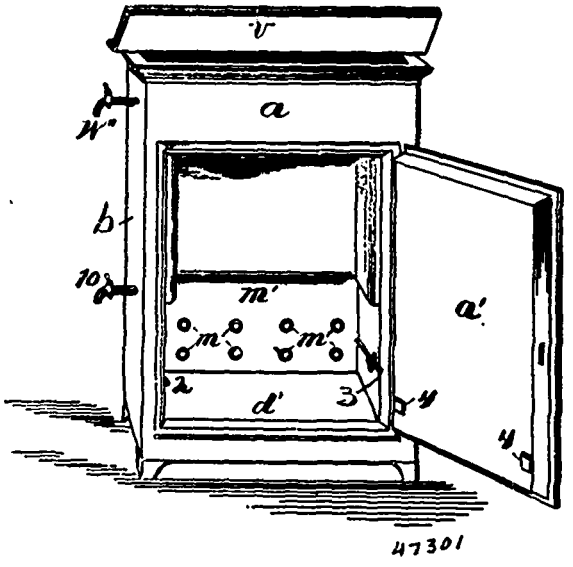
No. 47,300. Manufacture of Asbestos Cement.

(*Fabrication de ciment d'asbeste.*)

Messrs Kuhlewein and Company, Cities of Hamburg and Berlin, assignee of Albert Kuhlewein, Berlin, all in Germany, 20th October, 1894; 6 years.

Claim. 1st. A fireproof and weather resisting material termed asbestos cement for coating or covering wood and iron structures, consisting of a mixture of asbestos, gypsum, lime powder, chalk, fire-clay powder, graphite and the like. 2nd. In asbestos cement composed for a specifically light material, of a mixture substantially of 30 to 35 parts of a mixture of pure asbestos with an equal proportion of asbestine, 60 to 75 parts of gypsum, 25 parts of lime powder, 20 parts of chalk, 20 parts of crucible or fire-clay, 30 parts of graphite and 20 parts of coke ashes. 3rd. Asbestos cement for a specifically heavy material composed substantially as follows: 30 to 35 parts of a mixture of pure asbestos with an equal proportion of asbestine, 60 to 70 parts of cement, 25 parts of lime powder, 25 parts of chalk, 20 parts of crucible or fire-clay, 35 parts of graphite, and 25 parts of coke ashes, pumice stone or burnt clay. 4th. In fire and weather proof isolating layers prepared of asbestos, the introduction of wire netting and of one or more jute nettings into the mass of asbestos cement for the purpose of increasing the strength of the insulating material against fracture.

No. 47,301. Refrigerator. (*Réfrigérateur.*)



Ralph Hirish, James E. Ratchford, and William H. Simmons, all of Syracuse, New York, U.S.A., 20th October, 1894; 6 years.

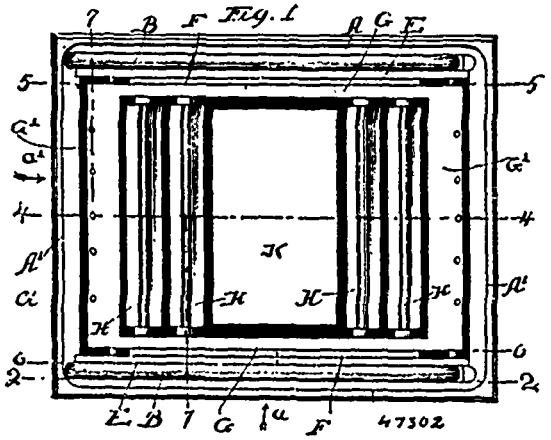
Claim.—1st. In a refrigerator of the class described, the combination with the provision chamber of a main refrigerating tank above said chamber, a primary mixing chamber above the main tank and means to intermittently connect them, and a vertical auxiliary tank or tanks within and parallel and contiguous to the vertical wall of said chamber and connected to said main tank. 2nd. In a refrigerator, the combination with the cold air storage chamber, around the sides and back thereof, of the main refrigerating tank having oblique walls closing the top of said chamber. 3rd. In a refrigerator, the combination with the cold air storage reservoir around the back and sides thereof, of the main refrigerating tank upon and obliquely closing the top of said reservoir, and the primary mixing tank, above said main tank. 4th. In a refrigerator, the combination with a stationary main refrigerating tank above the provision chamber, and an auxilliary refrigerating tank above the main tank, of a stationary water tank of lesser size, and within the main tank and suspended from the top thereof, an induction pipe therefor inserted through the auxilliary tank, and the top of the main tank, and an eduction pipe therefrom inserted through the outer wall of the refrigerator body. 5th. In a refrigerator, the combination with the main refrigerating tank, and the primary tank thereupon, of a water tank enclosed within and suspended from the top of the main tank, which is the bottom of the primary tank, and adapted to be immersed in the refrigerating solution in the main tank. 6th. In a refrigerator, a provision chamber, a cold air storage reservoir auxiliary thereto and in the rear thereof, a vertical partition between them, valve apertures in said partition, a valve plate in rear of said partition adapted to close said apertures, rods extending through said partition and along the sides of the provision chamber, a door to said chamber adapted at its stiles to engage with said rods and simultaneously actuate them to open said apertures substantially at the instant the door is shut, and to release them to close when the door starts to open, and springs behind said plate, in combination.

No. 47,302. Printing Block. (*Bloc d'imprimerie.*)

Fred I. Getty, Milton S. Kimball, Henry W. Rokker and Irving W. Van Zandt, all of Springfield, Illinois, U.S.A., 20th October, 1894; 6 years.

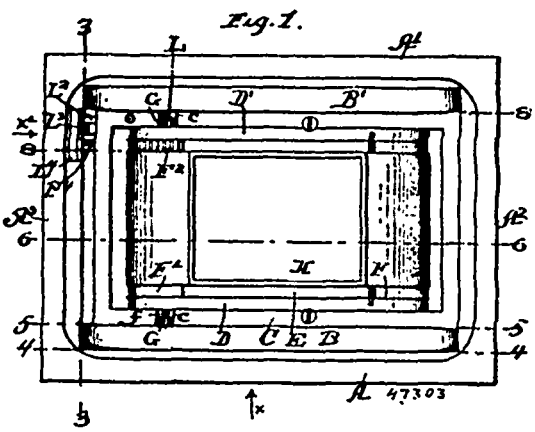
Claim. 1st. In a device of the class described, the combination, with a suitable box adapted to be set in a printing form, of a vertically reciprocating frame lying within said box, vertically reciprocating plates also lying within said box and having their edges above the plane of the face of the form and levers connected with said plates and with said movable frame whereby downward movement of said plates raises the frame and brings the printing face of the

bar into the plane of the face of the form. 2nd. In a device of the class described, the combination, with a suitable box, adapted to be set in a printing form, of the vertically reciprocating frame supported in the box, an inking-pad secured within the box, a prismoidal printing bar pivoted in the frame and adapted to be partially



rotated at each vertical movement of the frame and means for raising said frame through pressure applied to the form whereby the face of said prismoidal bar may be successively pressed upon said inking-pad and in like succession brought into the plane of the face of the form. 3rd. In a device of the class described, the combination with a suitable box, adapted to be set in a printing form of a vertically reciprocating frame lying within said box, mechanism projecting above the face of the form and adapted when pressed downward to raise said frame, an inking-pad secured within the box and a series of prismoidal printing bars journalled in the frame and adapted to be partially rotated at each vertical movement thereof, whereby the faces of each bar may be successively presented to the inking-pad and successively brought into the plane of the face of the form. 4th. In a device of the class described, the combination, with a suitable box adapted to be set in a printing form of a vertically reciprocating frame lying within said box, mechanism projecting above the face of the form and adapted when pressed downward to raise said frame, an inking-pad secured with the box, and a series of prismoidal printing bars triangular in cross-section journalled in the frame and adapted to be partially rotated at each vertical movement thereof, whereby the faces of each bar may be successively presented to the inking-pads and successively brought into the plane of the face of the form. 5th. The combination, with the box A, A^1, the vertically reciprocating frame G, G^1, and means substantially as shown and described for raising and lowering the frame, of the rotating printing bars H, H, pivoted in the frame, the stationary plates E, secured within the box and outside the frame and the pins P, projecting from the ends of the printing bars and lying in opening in the plates E, said openings being formed with marginal faces adapted to deflect said pins in the vertical movement of the frame and thereby to cause step by step rotation of the bars, substantially as shown and described. 6th. The combination with the box, the frame carrying the printing bars and means substantially as shown and described for raising the frames of screws s^1, lying in sockets in the walls of the box, and having their ends in engagement with the frame, and springs S^1, encircling said screws and pressing downward upon the heads thereof, whereby the frame is normally in its lowest position. 7th. The combination with the box A, A^1, the reciprocating frame G, G^1, and the rotating prismoidal printing bars journalled in said frame, of vertically moving horizontal strips crossing the ends of said bars and actuating springs pressing said strips upon the faces of the bars whereby the rotation of the bars is assisted and their adjustment at the close of each rotation is perfected. 8th. In a device of the class described, the combination with a box adapted to be set in a form, of a vertically moving frame lying within the box, prismoidal printing bars pivoted in said frame, means substantially as shown and described for imparting step by step rotation to said printing bars, vertically movable operating bars lying between the walls of the box and the walls of the frame, and oscillating levers pivoted to the box, and each having one of its ends pivoted to said movable frame, and its opposite end pivoted to one of said operating bars, whereby depression of said bars rocks said levers, and thereby raises said frame and printing bars. 9th. In a device of the class described, the combination with a box adapted to be set in a form, of the vertically movable frame lying within the box, printing bars supported by said frame and moving with it, vertically movable operating bars lying between the walls of the box and the walls of the frame, and oscillating levers, also lying between the walls of the box and the walls of the frame and pivoted to the box, said levers being placed at opposite ends of said operating bars, respectively, and each lever having one of its ends pivoted to said movable frame, and its other end pivoted to the corresponding end of one of said operating bars, whereby depression of the bars rocks all of said levers simultaneously and equally, and thereby raises said frame symmetrically, substantially as shown and described. 10th. The combination with the box A, A^1, the vertically moving bars B, B, and the frame G, G^1, lying within the box and between said bars, of printing bars H, H, pivoted in the said frame, rocking levers C, C, having extensions C^1,C^1, the rods D, D, joining said extensions and the springs S, S, pressing said rods longitudinally each of the levers C, C, being pivoted at its centre to the box and having its opposite ends pivoted respectively to the frame G, G^1, and to one of the bars B, whereby the pressure of the springs S, S, rocks the levers C, C, in one direction and tends to hold the bars in their raised position and to depress the frame, substantialy as shown and described. 11th. The combination with the box A, A^1, frame G, G^1, printing bars H, H, means substantially as shown and described for raising and lowering said frame and for effecting step by step rotation of said printing bars, of the triangular plates H^1, formed on said printing bars and vertically moving plates F, F, formed with openings *f*, enclosing said triangular plates and the springs S^2, adapted to resist either upward or downward movement of the plates F, F, and thereby to perfect the adjustment of the printing bars, substantially as shown and described.

No. 47,303. Printing Block. (*Bloc d'imprimerie.*)



Fred I. Getty, Milton S. Kimball, Henry W. Rokker and Irving W. Van Zandt, all of Springfield, Illinois, U.S.A., 20th October, 1894; 6 years.

Claim.—1st. In a printing block of the class described, the combination with a suitable case, of a vertically reciprocating frame supported within the case, an endless band mounted on suitable supports within the frame, means for supplying ink to said band at one point in its length, and means for imparting longitudinal movement to the band about its supports, the frame when in one position being adapted to press the exposed fold of the band against a suitably supported sheet and produce an impression thereon. 2nd. In a printing block of the class described, the combination with a case adapted to be set in a form of type, of a vertically reciprocating frame supported within the case, an endless band mounted on suitable supports within the frame, an inking-pad secured within the case and means for imparting longitudinal movement to the band about its supports, the frame being adapted when at one limit of its movement to press one face of the band against said inking-pad, and when at the opposite limit of its movement to bring the opposite face of the band into the plane of the upper face of the form in which the block is mounted. 3rd. In a printing block of the class described, the combination with a case adapted to be set in a form of type, of vertically reciprocating frame supported within the case, an endless band mounted on suitable supports within the frame and provided with printing characters, an inking-pad secured in the case and means for imparting longitudinal movement to the band, the vertical movement of the frame, being adapted to bring the opposite faces of the band alternately into contact with the inking-pad and into the plane of the face of the form, and the longitudinal movement of the band being adapted to present different parts of its surface successively to the inking-pad and bring them into the plane of the face of the form. 4th. In a printing block of the class described, the combination with a case adapted to be set in a form of type, of a vertically reciprocating frame lying within the case, two suitably journalled parallel drums lying within the frame, a block lying between said drums, an endless band extending about said drums and over said block, an inking-pad secured in the case below said band, and means substantially as shown and described for rotating one of said drums and imparting longitudinal movement to the vertical movement of the frame in one direction, being adapted to press the lower face of the band against the pad and its movement in the other direction being adapted to bring its upper face into the plane of the face of the form. 5th. The combination with the case A, A^1, of the frame C, C^1, supported within the case, means substantially as shown and described for giving the frame a vertical reciprocation, the drums, F, F^1, and block E, supported in

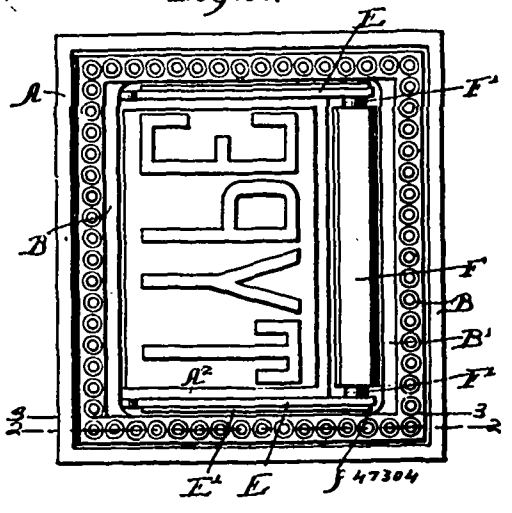
the frame, the endless band H, extending about the block E, and drums F, F¹, the inking pad I, secured below the band, and means substantially as shown and described, whereby the downward movement of the frame C, C¹, rotates the drums and imparts longitudinal movement to the band. 6th. The combination with the case A, A¹, of the vertically reciprocating plates B, B¹, the vertically reciprocating frame C, C¹, means substantially as shown and described connecting the plates and the frame and insuring their reverse movement, the drums F, F¹, mounted within the frame, the band H, extending about the drums, and gearing substantially as shown and described interposed between the plates B, B¹, and frame C, C¹, and adapted to be operated by the reverse movement of *the plates and the frame and thereby to rotate one of said drums and* longitudinal movement to the band. 7th. The combination, with the case A, A¹, plates B, B¹, frame C, C¹, and means substantially as shown and described connecting the case, the plates and the frame, and securing reverse movement of the plates and frame, of the drums F, F¹ supported in the frame, the band H extending about the drums, a train of gearing substantially as shown and described connected with one of said drums, and a lever connected with one element of said train of gearing by a ratchet or its equivalent, and adapted to be oscillated by the reverse movement of the plates and the frame, said lever by its connection with said train of gearing being adapted to operate it when swung in one direction, but not when swung in the other, whereby the movement of the frame in one direction, but not in the other, may operate said gearing and rotate one of said drums. 8th. The combination, with the case A, A¹, plates B, B¹, frame C, C¹, and means substantially as shown and described, connecting said parts and securing reverse movement of the plates and frame, of the drums F, F¹ mounted in the frame, the band H extending about said drums, the train of gearing G, G¹, G², G³ adapted to rotate one of said drums, the lever L¹ connected by a ratchet with one of the gears of said train, and engaging one of the plates B, B¹, whereby the reverse movement of the plates and the frame C, C¹ swings the lever, the swinging of the lever in one direction being adapted to operate the gears and rotate the drum and thereby to impart longitudinal movement to *the band H. 9th. The combination, with the case, the frame C, C¹* supported in the case and means for imparting vertical reciprocation to the frame, of the shafts *f*, *f*¹ journalled in the frame, the drum F mounted on the shaft *f*, the drum F¹ mounted loosely on the shaft *f*¹, the band H extending about the drums, a ratchet rigidly mounted on the shaft and normally in engagement with a corresponding ratchet on the drum, but adapted to be disengaged from it by longitudinal movement of the shaft, a train of gearing connected with the shaft, means substantially as shown and described, whereby the movement of the frame in one direction operates said gearing and rotates said shaft, and means for moving said shaft longitudinally at a predetermined point in the movement of the frame and thereby disconnecting the shaft from the drum. 10th. The combination, with the case, the plates B, B¹, the frame C, C¹, and means for imparting reverse vertical movement to the plates and frame, of the shafts *f*, *f*¹ journalled in the frame, the drum F mounted on the shaft *f*, the drum F¹ mounted loosely on the shaft *f*¹, the band H extending about the drums, gearing substantially as shown and described, connected with the shaft *f*¹, and adapted to be operated by the movement of the frame in one direction, a ratchet rigidly mounted on the shaft *f*¹, and normally in engagement with a corresponding ratchet on the drum, but adapted to be disengaged from it by longitudinal movement of the shaft, the lever L² pivoted to the frame and having one of its ends in contact with the end of the shaft, and the lever L³ impinging upon the opposite end of the lever L², *and adapted when the frame reaches a predetermined point in its* movement, to actuate the lever L², and disengage the shaft from the drum, substantially as shown and described. 11th. The combination, with the case, the vertically reciprocating frame C, C¹, the drums F, F¹, the band H, the inking-pad I, and means substantially as shown and described for imparting longitudinal movement to the band, of pins P⁵, set in the inking-pad, and transverse wires to set in the band, and adapted to strike the pins P⁵, and insuring the arrest of the band in proper position for its operation.

No. 47,304. Printing Block. (*Block d'imprimerie.*)

Fred I. Getty, Milton S. Kimball, Henry W. Rokker, and Irving W. Van Zandt, all of Springfield, Illinois, U.S.A., 20th October, 1894; 6 years.

Claim.—1st. The combination with a frame adapted to be set in a form of type, of a vertically oscillating frame hinged at one edge to said first mentioned frame vertically osillating levers connected with said vertically oscillating frame by means insuring their opposite movement, a printing bar journalled in the free ends of said oscillating levers, means for securing a stationary printing face within said oscillating frame, and said first mentioned frame and an inking surface lying below the plane of said stationary printing face, the downward movement of said vertically oscillating frame being adapted to raise said printing bar, and bring it into the plane of the stationary printing face, and the upward movement of the oscillating frame being adapted to press the printing bar against the inking surface. 2nd. The combination with a frame adapted to be set in a form of type and to support a stationary printing surface, of two vertically oscillating levers supported within said frame, a rotable printing bar supported by said levers and raised and lowered by their oscillation, an inking surface lying below the plane of the face of the form, a vertically movable element projecting normally above the plane of the face of the form, and mechanism connecting said vertically movable element with said oscillating levers whereby the motion of said movable element in either direction imparts reverse

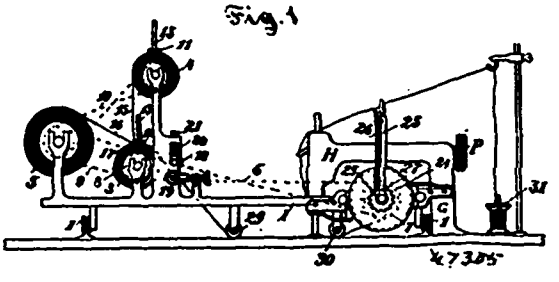
Fig. 1.



movement to said vertically oscillating levers, substantiallyy as shown and described. 3rd. The combination with the frame A¹, and the stationary frame A², within it, of the oscillating frame B, provided with the plates B², the levers E, E, the printing bar F, the levers L, L, connecting the plates B², and levers E, E, the inking-pad C, and means substantially as shown and described, for partially rotating the printing bar during its vertical movement. 4th. The combination with the frame A¹, and the frame A², within it, of the vertically oscillating frame B, hinged to the frame A¹, and provided with the border B¹, and plates B², B², the levers E, E, printing bar F, having gudgeons F¹, journalled in the levers E, E, the levers L, L, connecting the plates B², and levers E, the plates F², mounted on the ends of the printing bar and provided with pins *f*, *f*, the pawls E¹, E¹, mounted on the levers E, and the pawls G, G, mounted on the plates B², and adapted to engage the pins *f*, and to partially rotate the printing bar in its vertical movement, substantially as shown and described.

No. 47,305. Quilting Machine. (*Machine à piquer.*)

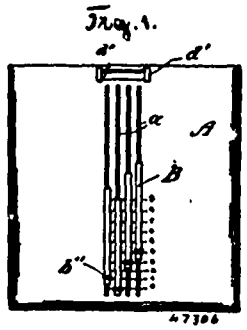
Fig. 1



Andrew Jackson Mitchell and Joseph Hidy, both of Washington Court House, Ohio, U.S.A., 20th October, 1894; 6 years.

Claim.—1st. In a quilting machine, the combination with a sewing mechanism, of a movable quilting frame, having the lower fabric-carrying roll 3, the upper fabric-carrying roll 4, the wadding-carrying roll 5, the tension rollers 18 and 19 between the lower fabric carrying roll and the sewing mechanism, and the receiving roll 24 in rear of the needle, of the sewing mechanism, means for intermittently rotating the receiving roll 24, and friction devices having frictional contact with a part of the receiving roll to hold the same against the strain of the taut goods, substantially as described. 2nd. In a quilting machine, the combination with a sewing mechanism, of a movable quilting frame, having the lower fabric-carrying roll 3, the upper fabric-carrying roll 4, the wadding-carrying roll 5, the tension rollers 17 and 19 between the lower fabric-carrying roll and the sewing mechanism, the receiving roll 24, having at one end a friction drum, friction devices having frictional contact with the periphery of the drum and adapted to move therewith when turned to tighten the goods, substantially as described. 3rd. The combination with a sewing machine, of a quilting frame movable back and forth, and provided with fabric-carrying rolls and a roll 24, having a drum 33, frictional keys L, frictional rollers M against which the keys bear, and spring O acting on the frictional keys, substantially as described.

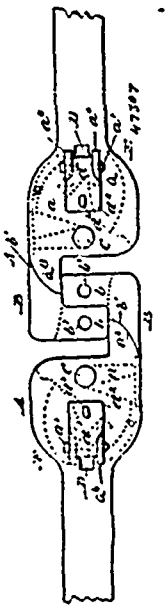
No. 47,306. Cash Register. (*Régistre de monnaie.*)



Robert Pawney King, William Frederick King and Arthur Stanley King, all of Ottawa, Ontario, Canada, 20th October, 1894; 6 years.

Claim.—1st. In a cash register, the combination of a desk top or lid A hinged at its upper end to a suitable casing supporting it, a cash drawer A^{11}, underneath, a series of type bars B with raised figures held slidingly on the underside of said top and having a part of each project above the upper surface by which it may be moved, a series of tapes D bearing figures corresponding to the figures of the type bars suspended near the back of the casing passing through a slot in said top and doubled over a cross-piece on the same, cords C each connecting a type bar with the end of a tape and running over pulleys C^1 and C^2, balance weights d secured to the outer ends of the tapes, a friction roller D^1 in the side pieces d^1, with a transparent cover d^2, over which said tapes pass, frames E secured to the underside of said top covering a portion of said type bars, a paper roll F journalled in said frame across said type bars, a taking-up roller F^1, journalled in said frame some distance from said roll, a ratchet-wheel F^{11}, on the axle of said roller, a weighted link F^4 pivoted to said frame, a pawl F^{111}, hinged to said link and connected to it by a spring, a spring F^5 connecting said link and pawl and putting the latter into engagement with the ratchet-wheel, an inking ribbon G interposed between the paper and the type bars and rollers to hold, and connecting gear to move the same, an axle H journalled in said frame across said paper having a hammer or pad for each type bar carried on a flexible arm, a lever or arm H^1, on said axle projecting downward in line with the link and pawl, a spring H^{11}, holding said lever against a stop on the frame so as to hold the pads close to the paper, and a post or lever I pivoted to the cash drawer and adapted to be deflected rearwardly when moving forward and remain upright when moving backward and come into contact with the lever H^1, and link F^4, substantially as set forth. 2nd. In a cash register, the combination of a desk top or lip hinged at its upper end to a suitable casing supporting it, a series of type bars with raised figures on their lower surface held slidingly on the underside of said top and having part of each projected above the upper surface by which it may be moved and set, a series of figures corresponding to the flanges on the type bars marked on said table along the margin of said type bars, a tape for each type bar hung over a cross-piece at the rear end of said top, and passing through a slot in the same, and marked with figures corresponding to the figures on the type bars, a balance weight at one end of each tape, a cord connecting the other end of each tape to one of the type bars and guide pulleys for each cord, substantially as set forth. 3rd. In a cash register, the combination of a desk top or lid hinged at one end to a suitable casing, parallel slots a in said top, type bars B, each having its web slide in one of said slots, the face of the lower flange having raised figures and the upper sliding on the upper surface of said top and a finger-piece and index b^{11} on said upper flange, substantially as set forth. 4th. In a cash register, the combination of a desk top or lid A, hinged at the upper end to a suitable casing, a transverse slot in the upper end of said top, side-pieces or brackets d^1 at the ends of said slot, a cross piece or roller D^1 in said brackets, a covering having a transparent part d^{11}, and tapes D, passing over said cross-piece weighted at one end and connected to movable parts at the other by suitable connections and marked with figures exhibited through said transparent part, substantially as set forth. 5th. In a cash register, the combination of a desk top or lid A, hinged at the upper end to a suitable casing, a series of type bars having raised figures held slidingly on the lower surface of said top, two frame sides placed on the lower side at the outer margin of said bars, an axle journalled in said frames adapted to hold a roll of paper across said type bars, a taking-up roller journalled in said frame sides adapted to draw-off paper from said roll and coil it up, a ratchet-wheel on said roller, a pawl adapted to engage said ratchet-wheel, a link pivoted to one of said frame sides and having said pawl hinged to it, a spring connecting said link and pawl, and a detent engaging said ratchet-wheel, a drawer below said type bars, and a post pivoted therein adapted to be deflected when travelling forward, and striking the pawl and remaining upright and deflecting the link when travelling backward, substantially as set forth. 6th. In a cash register, the combination of a desk top or lid A hinged at the upper end to a suitable casing, a series of type bars having raised figures held slidingly on the lower surface of said top to frame sides placed at the margins of said bars, a roll of paper ribbon journalled in said frame across said bars and passing over their surface, a roller journalled in said frame a little distance from said roll adapted to draw-off and take-up a portion of said ribbon at intervals, an inking ribbon interposed between said paper ribbon and type bars and provided with means of holding the same at one end and moving it at the other, an axle journalled in said frame across the paper ribbon and provided with a hammer or pad for and over each type bar and secured to said axle by a flexible arm, a downwardly projecting lever on said axle, a spring connecting said lever with the frame, a stop on said frame limiting the movement of said lever so as to hold the hammers close to the paper ribbon and a post I pivoted to a drawer below and adapted to be deflected by said lever when moving forward and to remain upright and deflect said lever when moving backward, substantially as set forth. 7th. In a cash register, the combination of a hinged top or lid A, slots a in said top, a series of type bars B adapted to slide in said slots, frame sides E on the outer margins of said slots, a paper roll F pivoted in said frame, a taking-up roller F^1 journalled in said frame, a ratchet-wheel F^{11} on said roller, a pawl F^{111} engaging said ratchet-wheel, a weighted link F^4 pivoted to said frame and having said pawl hinged to it, a spring detent f^{11} secured to said frame and engaging said ratchet-wheel, an inking ribbon G interposed between said type bars and paper and held on rollers G^1 and G^{11}, journalled to said top A, pulleys f^{111} and a^{111}, and band G^{111} connecting the axle of the taking-up roller for the paper with the axle of the taking-up roller of the inking ribbon, and an axle H journalled in said frame close to the paper ribbon and having arms h each carrying a pad or hammer h^1 for and over each type bar and held close to said paper and a spring actuated lever or arm H^1 on said axle held against a stop on said frame and adapted to be deflected, substantially as set forth.

No. 47,307. Car Coupler. (*Attelage de chars.*)



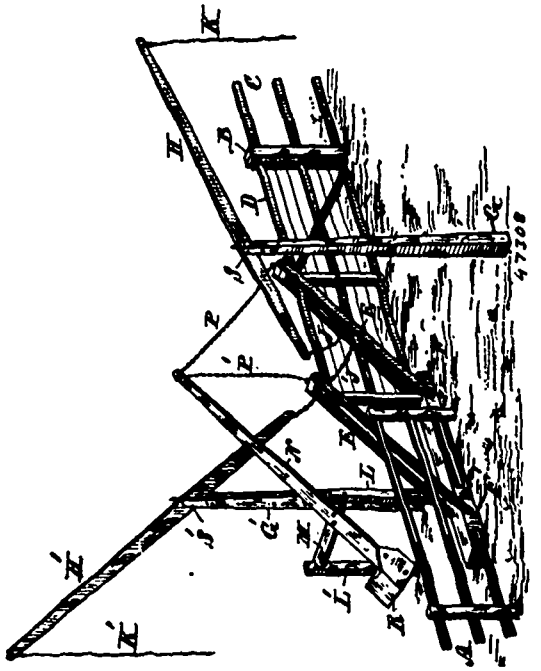
Charles H. W. Relyea and Henry C. Langdon, both of North Adams, Michigan, U.S.A., 20th October, 1894; 6 years.

Claim.—1st. In a car coupler the combination of a draw-head having its extremity bifurcated whereby a top plate and a bottom plate are formed, the said top plate and bottom plate provided with registering pin holes extending through them and having on their adjacent faces recesses, a^2, extending radially from said pin holes, the jaw B pivoted at the pin holes in said top and bottom plates and provided on opposite sides with projections or lugs of less width than are arranged in the recesses in the adjacent faces of said plates said jaw having a lateral lug at its forward end and a transverse arm between said shoulder and pivot point, said arm engaging when in its locked position some fixed portion of the draw-head, the rear end of the jaw being provided with an inclined slot, and uncoupling lever D, pivoted in the draw-head behind the rear end of the jaw, and in a position to engage the inclined slot therein, said lever having its upper end weighted and bent forward, substantially as set forth. 2nd. In a car coupler, the combination with a draw-head having its extremity bifurcated to form a top and bottom plate, and a jaw pivoted between the top and bottom plates, of a guard plate secured to the top and bottom plates and arranged to cover the space between them, substantially as described. 3rd. In a car coupler, the combination with a draw-head having its extremity bifurcated to form a top and bottom plate, and provided with an outward and forward extending projection, of a jaw pivoted between the top and bottom plates and arranged to have its lateral movement limited by the out-

ward and forward projection of the opposite coupler, substantially as described.

No. 47,308. Gate Operating Device.

(*Mécanisme de barrières.*)

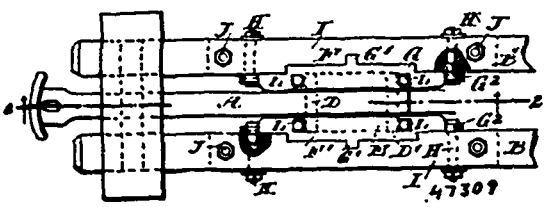


James M. Rose, Vancamp, Ontario, Canada, 20th October, 1894; 6 years.

Claim.—1st. The combination with a gate, of the parallel inclined levers E, E^1, pivoted to said gate and to a ground fixture, the ground posts G, G^1, near the approaches to the gate from opposite sides, the swinging levers H, H^1, provided with pull ropes K, K^1, pivoted to the top of said posts, the ends converging downwardly and inwardly, the chains J, J^1, connecting the lower end of the levers H, H^1, to the lever E, at or about its middle, and the springs S, S^1, reacting the swinging levers, substantially as and for the purpose set forth. 2nd. The combination with a gate operated as described, of the ground posts L, L^1, the rock shaft M, carried by said posts, the tilting lever N, secured to said shaft, the counterbalance weight R, secured to said lever at or near the lower end, and chains P, P^1, connecting the top of said tilting lever to the top of the levers E, E^1, carrying the gate, as set forth, for the purpose described.

No. 47,309. Draw-bar Guide. (*Guide de barre d'attelage.*)

Fig. 1.



Heinrich W. F. Jaeger, Sandusky, Ohio, U.S.A., 20th October, 1894; 6 years.

Claim.—A draw-bar guide formed on its inner face with a recess for receiving the followers, and provided at its ends with flanges adapted to be bolted to the inner face of the draw-bar timber, an offset extending outwardly from the guide between the said flanges, to engage a recess in the inner face of the draw-bar timber, a rib projecting outwardly from the said offset to engage a further recess in the draw-bar timber, and an essentially horizontal flange, extending outwardly from the guide at the bottom thereof and beyond the outer face of the said rib, said flange being adapted to be bolted to the bottom surface of the draw-bar timber, substantially as described.

No. 47,310. Air-Induction Apparatus for Furnaces.

(*Appareil d'induction à air pour fournaises.*)

Jonathan Mills, New York, State of New York, U.S.A., 20th October, 1894; 6 years.

Claim.—1st. An air-induction apparatus for furnaces having an air-inlet *x*, of relatively restricted diameter, opening at its mouth into a passage *y*, of larger diameter than the air-inlet, an annular offset being thus formed at and laterally exterior to the mouth of the air-inlet, and steam-jet nozzles arranged at said offset about the

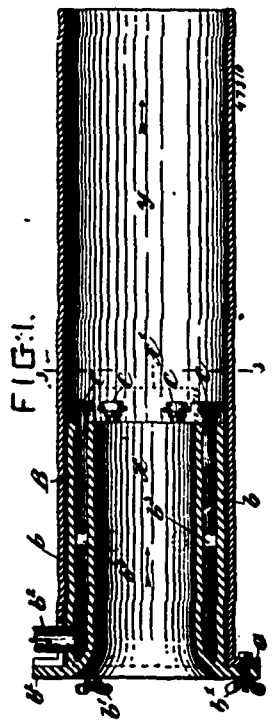


FIG. 1.

mouth of the air-inlet and in the passage *y*, whereby an enlarged expansion chamber is formed from and beyond the point where the steam and air commingle. 2nd. An air-induction apparatus for furnaces, comprising a main tube having a passage *y*, an induction nozzle having an air-inlet or passage *x*, of less diameter than the passage *y*, and arranged concentrically therewith, and a series of steam-jets arranged within the passage *y*, and around the mouth of *the passage x, substantially as set forth. 3rd. An air-induction* apparatus for furnaces, comprising a main tube, an air-induction nozzle B, fitting into said tube and having a chamber *b*, in its wall, and an inlet for steam to said chamber, and a series of steam jets set in the inner end of the induction nozzle around the air-passage therethrough, substantially as set forth. 4th. An air induction apparatus for furnaces, comprising a tubular induction nozzle having an air-passage X, and steam jets C, arranged around the mouth of said passage and an enclosing tube about said induction nozzle, as set forth. 5th. In an air-induction apparatus for furnaces, the combination with the main tube A, provided with a flange *a*, at its outer end, of the induction nozzle B, adapted to fit into the tube A, and having a flange *b*', and means for detachably securing the flange *b x* to the flange *a*, whereby the ready removal of the induction nozzle is facilitated, substantially as set forth. 6th. A steam-jet nozzle for an air-induction apparatus, having a cap with adjutages for the steam and a rotatable register cap to control said adjutages, substantially as set forth.

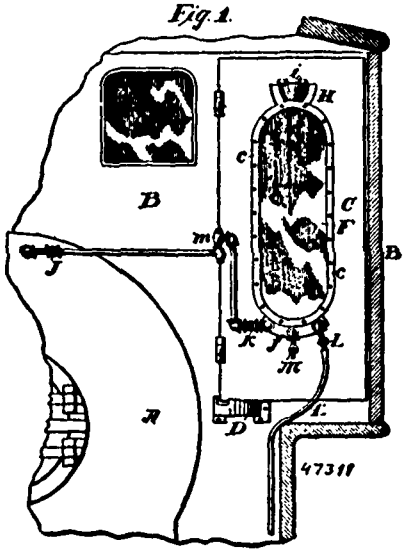
No. 47,311. Storm Window. (*Contre-fenêtre.*)

Hollis Wilson Tinker, Nashua, New Hampshire, U.S.A., 20th October, 1894; 6 years.

Claim.—1st. A window or door composed of two panes of glass set apart and having the intermediate space filled with a heavy transparent fluid, suitable means for confining the fluid within the chamber, and suitable means for heating the fluid, substantially as and for the purpose described. 2nd. The combination of the sash *frame, two panes of glass, elastic packing applied upon the seats of* the sash frame, clamping portions, a body of heavy transparent fluid confined between the panes or plates of glass and suitable means for heating said body of fluid, substantially as and for the purpose described. 3rd. A window or door for a locomotive cab and other purposes, comprising separated panes or plates of glass with a fluid tight space between them, and a body of heavy transparent fluid between the glass panes or plates, means for heating said fluid, and a hinged pipe connection, substantially as described. 4th. A hinged window or door for a locomotive cab or other purpose, comprising separated panes or plates of glass with a fluid tight space between them, and a body of heavy transparent fluid between the panes of glass, means for heating the fluid, hinged pipe connection and a quadrant latching arm and support, substantially as described. 5th. A locomotive cab or other analogous structure

having windows or doors provided with glass panes in duplicate and set apart, an upper and lower hermetically sealed chamber, a heating coil in one of the chambers and circulating pipes connecting the coil with a boiler or other structure which supplies the heating agent

Fig. 1.



to the coil, substantially as described. 6th. The combination of the double glazed window or door, the fluid or vapour tight heating chamber, circulating space, heating coil having pipes whose ends are connected with the boiler substantially as described. 7th. The combination of the glazed window or door C, heating chamber *j*, space G, passage *k*, draw-off water cock M, and means for heating water within the chamber, substantially as described. 8th. The combination, with the window or door frame of the spaced panes of glass applied so as to prevent the escape of fluid or other analogous agent and the heating space or chamber connected with the main chamber, substantially as described. 9th. A locomotive cab having its windows or doors provided with glass panes in duplicate and set apart with a space between the panes for a circulating heating medium and a coil for heating said medium, substantially as described. 10th. The combination of the double glazed window or door having a fluid tight chamber or space between and below the glass panes for containing a fluid or other analogous agent to be heated, means for heating said fluid or vapour in the chamber or space, a passage and a draw-off cock, substantially as described. 11th. The combination, with a cab door or window of a chamber having glass walls with a transparent liquid in said chamber and suitable means for heating the liquid, substantially as shown.

No. 47,312. Carriage. (*Voiture.*)

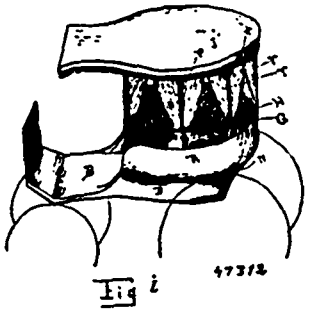
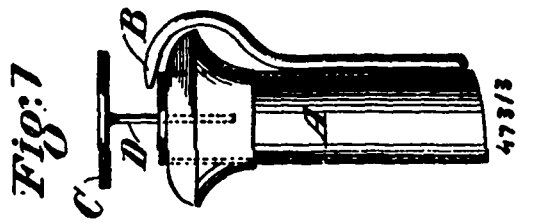


Fig i

William Marr Ward, Corunna, and Adolph Roedel, Linden, both in Michigan, U.S.A., 20th October, 1894; 6 years.

Claim.—1st. A vehicle, the body consisting of a lower semi-circular body of the usual width and supporting a wider semi-circular body superimposed concentrically upon the lower body, a continuous seat arranged around the back and two sides thereof within the upper body, and a seat closing in front, which seat is capable of being wholly or partially removed, substantially as described 2nd. In a vehicle body, the combination of a basic frame, a concentric superimposed frame carrying a substantially circular seat, capable of being opened on the side towards the front of the vehicle, substantially as described 3rd. In a vehicle body the combination of a substantially semi-circular seat supporting frame, consisting of cross-bars E, E, and connected by outer and inner longitudinal strips F, K, the cross-pieces E being substantially centrally supported from frame A^2, and interiorly braced by braces *g*, *g*, substantially as and for the purposes set forth. 4th. In a vehicle body, the combination of a substantially semi-circular seat supporting frame, consisting of cross-bars E, E, and connected by outer and inner longitudinal strips F, K, the cross-pieces E being substantially centrally supported from frame A^2, and interiorly braced by braces *g*, *g*, and a semi-circular back N, and the connecting brackets L, L, substantially as described.

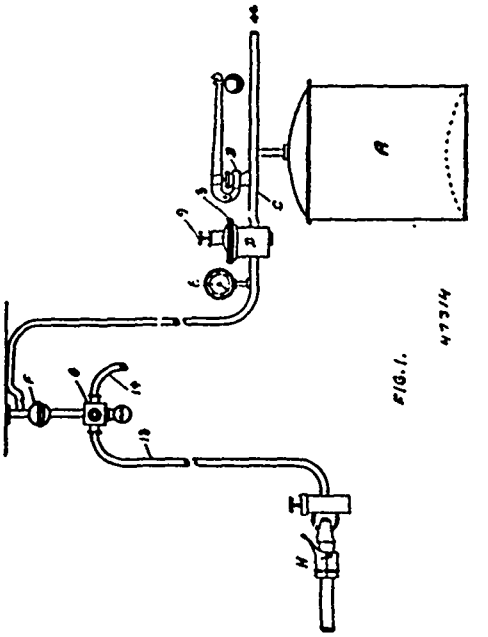
No. 47,313. Spark Arrester. (*Arrête-étincelle.*)



Henry O'Hara and John Alston Wallace, both of Melbourne, Victoria, Australia, 20th October, 1894; 6 years.

Claim.—1st. In apparatus for arresting and extinguishing sparks issuing from the funnels of locomotives and other engines, and from the chimneys of factory and other furnaces, the employment of one or more steam jets directed across, and immediately above the top or mouth of such funnels or chimneys, substantially as and for the purposes herein described and explained, and as illustrated in the accompanying drawing. 2nd. In apparatus for arresting and extinguishing sparks issuing from the funnels of locomotive and other engines, and from the chimneys of factory and other furnaces, the employment of one or more steam jets directed across and immediately above, the top or mouth of such funnels or chimneys, in combination with a disc or baffle plate (such as C) supported a short distance above the top of said funnel or chimney, substantially as and for the purposes hereinbefore described and explained, and as illustrated in the accompanying drawing. 3rd. In apparatus for arresting and extinguishing sparks and collecting the unconsumed carbon and the volatilized portion of the fumes issuing from the funnels of locomotive and other engines, and from the chimneys of factory and other furnaces, the employment of one or more steam jets directed across, and immediately above, the top or mouth of such funnels or chimneys, in combination with a baffle plate (such as C) supported a short distance above said funnel or chimney, together with a receptacle (such as E) arranged at one side of the funnel opposite to said nozzle, or in any other convenient position to receive the particles of unconsumed carbon, substantially as herein described and explained, and as illustrated.

No. 47,314. Blowing Glass Bottles, Etc.
(*Appareil pour souffler les bouteilles de verre.*)

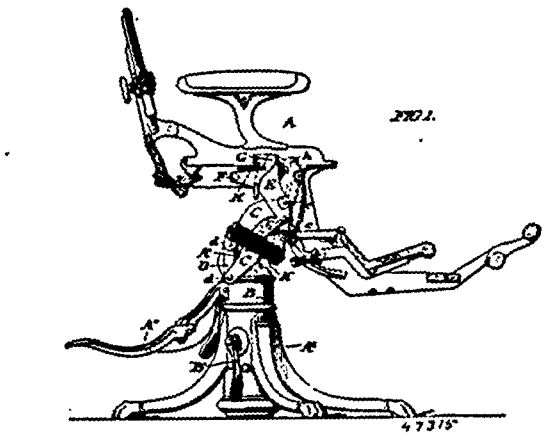


Henry Kerrill, Dublin, Ireland, 23rd October, 1894; 6 years.

Claim.—1st. In an apparatus for blowing glass bottles and other glass articles, the combination with a reservoir or container supplied with compressed air and conducting pipe therefrom, of an

automatic regulating valve controlling the supply of air to the blow pipe for the purpose set forth. 2nd. In apparatus for blowing glass bottles and other glass articles, the combination with a reservoir or container supplied with compressed air, a conducting pipe therefrom and distributing device, of an automatic regulating valve comprising a chamber through which said pipe passes and with which it communicates on one side of a partition in said pipe, a flexible diaphragm and a balance fork suspended therefrom, the base of which fork carries a valve plug adapted to fit an aperture formed in the part of said conducting pipe passing through the valve chamber and on the opposite side of the partition in said pipe, as set forth. 3rd. In apparatus for blowing glass bottles and other glass articles, the combination with a reservoir or container supplied with compressed air, a conducting pipe therefrom and distributing device, of an automatic regulating valve comprising a chamber through which said pipe passes and with which it communicates on one side of a partition in said pipe, a flexible diaphragm and a balance fork suspended therefrom, the base of which fork carries a valve plug adapted to fit an aperture formed in the part of said conducting pipe passing through the valve chamber and on the opposite side of the partition in said pipe, and means for adjusting the position of said balance fork and valve plug carried thereby, as set forth. 4th. In apparatus for blowing glass bottles and other glass articles, an automatic regulating valve in the form of a cylinder or chamber through which the air conducting pipe passes, and with which it communicates on one side of a partition in said pipe, a flexible diaphragm and a balance fork suspended therefrom, the base of which fork carries a valve plug adapted to fit an aperture formed in the part of said conducting pipe passing through the valve chamber and on the opposite side of the partition in said pipe with means for adjusting the position of said balance fork and valve plug carried thereby, as set forth. 5th. In apparatus for blowing glass bottles and other glass articles, a nozzle-piece comprising a cylinder, a compound piston therein, a spiral spring acting upon said piston and a push device for same, the cylinder frame being formed with a conical socket and suitable inlet and outlet, a blow-pipe holder formed with a hinged clipping section to receive the blow-pipe and having a perforated cone shaped end to fit said conical socket and communicate with the inlet to the cylinder for the purposes set forth.

No. 47,315. Dental Chair. (*Chaise dentaire.*)



The S. S. White Dental Manufacturing Company, Philadelphia, Pennsylvania, assignee of Arthur W. Brown, Prince's Bay, New York, all in U.S.A., 23rd October, 1894; 6 years.

Claim.—1st. The combination of the pedestal or base, the main elevating and lowering support carried thereby, the supplementary elevating and lowering mechanism carried by said main support and vertically adjustable independently thereof, and the chair-body carried by and jointed to tilt upon said supplementary mechanism, substantially as set forth. 2nd. The combination of the pedestal or base, the horizontally turning main elevating and lowering support carried thereby, the supplementary elevating and lowering mechanism carried by said main support, partaking of its up and down and horizontal turning movements and vertically adjustable independently thereof, the chair-body carried by and having jointed supporting connection with said supplementary mechanism, and means by which to tilt the chair-body upon the supplementary elevating and lowering mechanism and secure it in its tilted position, substantially as set forth. 3rd. The combination of the pedestal or base, the main elevating and lowering support carried thereby, the spring counterbalanced supplementary elevating and lowering mechanism carried by said main support and vertically adjustable independently thereof, means for maintaining said supplementary mechanism in its position of adjustment, and the chair-body carried by and jointed to tilt upon said supplementary mechanism, substantially as set forth. 4th. The combination of the main elevating and lowering support, means for vertically adjusting it, the parallel arms having jointed connection at their inner ends with the said support, the chair-body carrier to which said arms are jointed at their outer ends, means carried by the parallel arms and chair-body carrier for maintaining the parallel arms in their position of adjustment, and the chair-body having supporting connection with said carrier, substantially as set forth. 5th. The combination of the main elevating and lowering support, means for vertically adjusting it, the parallel arms having jointed connection at their inner ends with said support, the chair-body carrier to which said arms are jointed at their outer ends, means for maintaining the parallel arms in their position of adjustment, the chair-body having jointed supporting connection with said carrier, and the counterbalancing springs connected at their opposite ends with the upper and lower parallel arms, substantially as set forth. 6th. The combination of the main elevating and lowering support, means for vertically adjusting it, the parallel arms having jointed connection at their inner ends with said support, the chair-body carrier to which said arms are jointed at their outer ends, means carried by the parallel arms and chair-body carrier for maintaining the parallel arms in their position of adjustment, the chair-body having jointed supporting connection with said carrier and tilting thereon, and means for maintaining the body in the position in which it may be tilted, substantially as set forth. 7th. The combination of the pedestal or base, the main elevating and lowering support, the bracket rigid with the upper end of the support, the parallel arms having jointed connection at their inner ends with the support by way of said bracket, the chair-body carrier to which said arms are jointed at their outer ends, means for maintaining the parallel arms in their position of adjustment, the chair-body having jointed supporting connection with said carrier, and means for tilting the chair-body upon its carrier and for securing it in its tilted position, substantially as set forth. 8th. The combination in a dental chair, of the main elevating and lowering support, its supporting mechanism, the supplementary elevating and lowering mechanism comprising the chair-body carrier and the parallel arms pivoted thereto, and carried by the main elevating and lowering support with which they have jointed supporting connection, and the controlling connection between said arms and the supporting mechanism, whereby the arms partake of the vertical movements of the main support as well as rock about their jointed connection therewith, substantially as set forth. 9th. The combination of the main elevating and lowering support, its supporting mechanism, the supplementary elevating and lowering mechanism carried by the main elevating and lowering support and consisting of the chair-body carrier and the parallel arms pivoted thereto and having jointed supporting connection with the main elevating and lowering support and controlling connection with the supporting mechanism, and means for elevating and lowering said support and simultaneously actuating the supplementary elevating and lowering mechanism, substantially as set forth. 10th. The combination of the main elevating and lowering support, its supporting mechanism, the supplementary elevating and lowering mechanism comprising the parallel arms having jointed connection with the main elevating and lowering support and provided with the rearward extension having connection with said supporting mechanism, and the chair-body carried by the supplementary elevating and lowering mechanism, substantially as set forth. 11th. The combination of the main elevating and lowering support, its supporting mechanism, the bracket at the upper end of said support provided with the hangers, the supplementary elevating and lowering mechanism comprising the parallel arms having jointed connection with said bracket and provided with the rearward extension, the connection between said extension and said supporting mechanism, and the chair-body carried by the supplementary elevating and lowering mechanism, substantially as set forth.

No. 47,316. Dumping Apparatus for Railway Cars.

(*Appareil à bascule pour chars de chemin de fer.*)

The Long Manufacturing Company, assignee of Timothy Long, both of Cleveland, Ohio, U.S.A., 23rd October, 1894; 6 years.

Claim.—1st. The combination in a dumping apparatus, a rolling platform comprising rings C, longitudinal floor beams C^1, cross-ties supported on said beams, track-rails and sub-boards C^2, supported on said ties, side-beams C^3, and covering board C^4, uniting said rings C, a discharge spout G, connected with the covering board, a supporting leaf G^1, hinged to lower edge of said spout, the jointed bars H, pivotally attached to said leaf, and the side rails C^3, links H^1, pivoted to the bars H, and connected with levers I, fulcrumed on the run-boards C^2, grappling hooks J, connected with levers J^1, also fulcrumed on the run-board, all constructed to operate, substantially as and for the purpose specified. 2nd. The combination in a dumping apparatus, a rolling platform comprising rings C, longitudinal floor beams C^2, cross-ties supported on said beams, track rails and run-boards supported on said ties, side beams C^3, and covering-board C^4, uniting said ring, a discharge spout G connected with the covering-board, end boards K, suspended by hangers *k*, to axles L, provided with grooved wheel *l l*, track bars l^2, on which said wheels run, guard rods L^1 over said wheels, brace rods K^2, pivotally connecting the end boards with the covering-board, the fixed pulleys M M, intermediate pulley M^2, cord *m* attached to the axles and running over said pulleys, as means for adjusting said end boards over the ends of the car box, all constructed to operate, substantially as and for the purpose specified. 3rd. In a dumping

apparatus for railway cars, a cylindrical frame C, constructed and arranged substantially as described, in combination with the inclined transverse track beams B, grooved gear teeth on said beams, segment gear teeth D, on the end rings C, cables E, having one of their

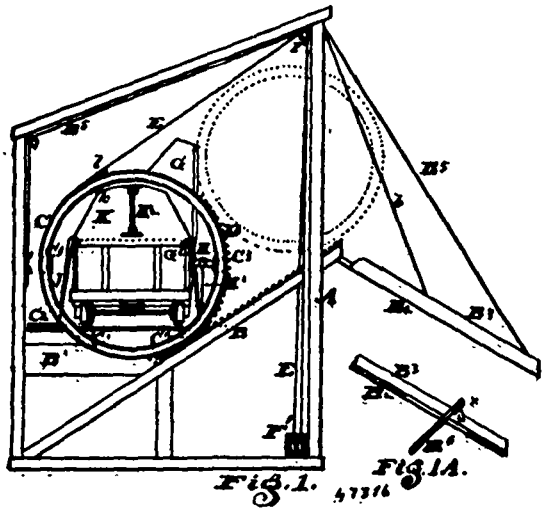
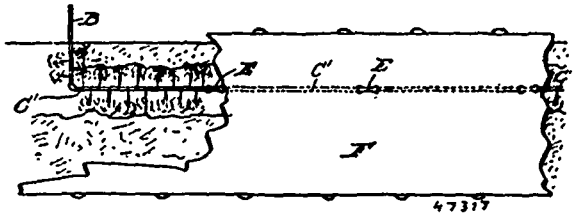


Fig. 1. 47316 Fig. 1A.

ends attached to the upper ends of the track beams B, and passing down and around said rings, thence up to and through sheaves F, at the upper corners of the tressel frame, thence down to and through sheaves F^1, at the bottom of the tressel frame, to be connected with power for rolling the cylindrical frame, substantially as and for the purpose set forth. 4th. The combination in a dumping apparatus, with a rolling frame, having spout C, of the supporting tressel A, a fixed apron extending full length of the tressel, and having slanting partitions B^7, dividing the apron into shutes adapted to receive the spout G, when the car platform is rolled over, and discharge the car-load through said chutes into a number of receptacles, ssubstantially as and for the purpose set forth.

No. 47,317. Method of and Apparatus for Melting Snow Drifts. (*Méthode et appareil pour fondre la neige.*)



47317

James Buchanan Braud, Henry Schackell and Claud Lorraine Franklyn, all of Milwaukee, Wisconsin, U.S.A., 23rd October, 1894; 6 years.

Claim.—1st. The herein described method of reducing or removing snow-drifts, consisting in placing a flexible apertured pipe upon the drift, and connecting said pipe with a source of supply of steam or hot air, substantially as and for the purpose described. 2nd. The herein described method of reducing or removing snow-drifts, consisting in placing a flexible apertured pipe upon the drift, connecting said pipe with a source of supply of steam or hot air, and placing a cover of flexible material over the drift, substantially as and for the purpose described. 3rd. The herein described apparatus for melting or reducing snow-drifts, comprising a flexible pipe adapted to be connected with a source of supply steam or hot air, said pipe being provided at intervals, with discharge apertures, substantially as and for the purpose described. 4th. The herein-described apparatus for melting or reducing snow-drifts, comprising a flexible pipe adapted to be connected with a source of supply of steam or hot air, said pipe being provided at intervals with discharge apertures, and a covering of flexible material adapted to be placed over the top of the drift to be reduced, substantially as and for the purpose described. 5th. The herein described apparatus for melting or reducing snow-drifts, comprising a flexible pipe adapted to be connected with a source of supply of steam or hot air, said pipe being provided at intervals with discharge apertures, and laterally extending adjusting devices, substantially as and for the purpose described.

No. 47,318. Car Coupler. (*Attelage de chars.*)

Hermann Gay and Fidelio Finke, both of Baltimore, Maryland, U.S.A., 23rd October, 1894; 6 years.

Claim.—1st. A car coupler having the following elements in combination, viz., a draw-head held yieldingly in an extended position with regard to the car body, and provided with a notch, as described, a tumbler adapted to enter the said notch when the draw-

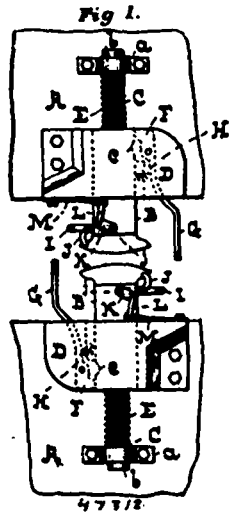


Fig 1. 47318

head is forced inward and thereby hold the said draw-head, a spring-held lever for operating the said tumbler, and a pivoted link and hook adapted to be thrown into alignment with the longitudinal centre line of the car as the draw bar is depressed, and thereby adapted to couple with a similar link and hook on another coupler, substantially as specified.

No. 47,319. School Seat and Desk.

(*Pupitre-siège d'école.*)

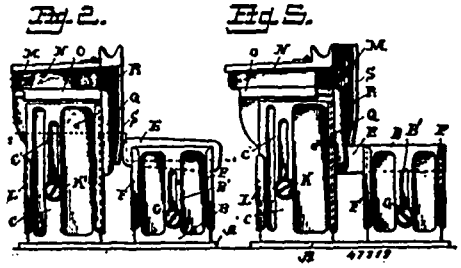


Fig. 2. Fig. 3. 47319

John Robb, Strand, assignee of Theodore Tobias, Pierpoint, both in South Dakota, U.S.A., 23rd October, 1894; 6 years.

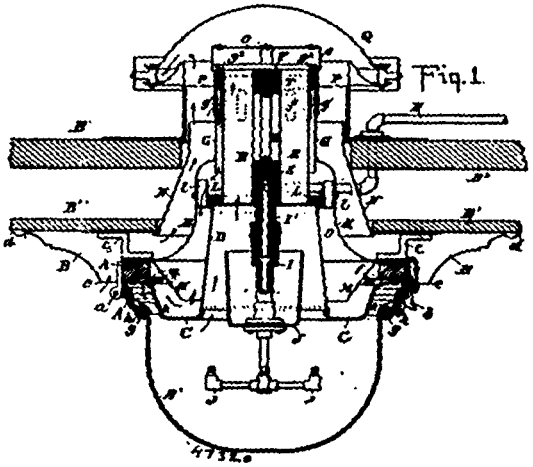
Claim.—1st. The combination of a desk seat standards in front thereof, slotted longitudinally at the upper ends, angular guides F, secured to the vertical edges, seat posts B, slotted vertically at B^1, through which clamping screws extend to the seat standards, the opposite edges of said posts being embraced by said guides F, longitudinally slotted support I, seats E, carrying trunnions which bear in said support and standards, and bar H, sustaining said support, and also, the seats when in a horizontal position, substantially as shown and described. 2nd. The combination of a desk, standards upon which it is vertically adjustable, guides Q, secured to the desk, flanges Q^1, formed on said guides to embrace the said standards, and a back adjustable vertically on guides Q, substantially as shown and described.

No. 47,320. Lamp. (*Lampe.*)

The Safety Car Heating and Lighting Company, New York, State, of New York, assignee of Robert Munn Dixon, East Orange, New Jersey, all in the U.S.A., 23rd October, 1894; 6 years.

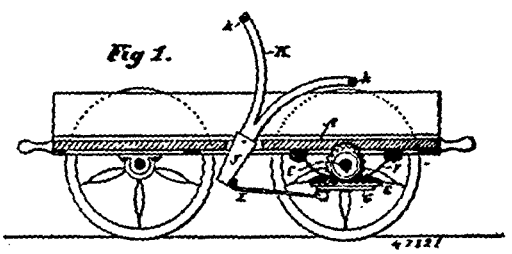
Claim.—1st. In a car lamp, the combination of the globe or combustion chamber, with a supporting two-part ring, together with a surrounding ring or casing, substantially as described. 2nd. In a car lamp, the combination of the globe H^1, the two-part ring A, suspended from the roof of the car, a surrounding ring or casing B, having an edge abutting against the car roof, and the other edge extending down and embracing the two-part ring A, substantially as described. 3rd. In a car lamp, the combination with a globe and burner of the ring A and B, casings H and N, and an open exit for the products of combustion, substantially as described. 4th. In a car lamp, the combination with a burner of casing G, a funnel H, a downwardly extending deflector plate M, and an open exit for the products of combustion, substantially as described. 5th. The combination in a car lamp of a funnel N, extending between the decks of a car roof and exit passages for the products of combustion arranged

within the funnel, substantially as described. 6th. The combination in a car lamp of a casing G, a plate surmounting the same, and secured thereto by ribs *o*, as specified. 7th. The combination in a car lamp of a funnel H, a perforated casing G, a downwardly extending deflector plate M, a globe or combustion chamber H^1, and



exit passages for the products of combustion arranged within the funnel H, and casing G, as specified. 8th. A car lamp having its combustion chamber located within the car, exit passages therefrom extending through the roof of the car, a funnel surrounding said exit passages, and extending from within the car through the roof, thereof and means for supplying air to the combustion chamber, as specified. 9th. In a car lamp, the combination with a combustion chamber or globe and burner of the rings A and B, casing H, funnel N, open communication from the interior of the car to the combustion chamber through the chamber formed between the casing H, and funnel N, and an open exit for the products of combustion, substantially as described. 11th. The combination in a car lamp of a suitably supported head F, casing G supported by said head, a plate surmounting the casing G and secured thereto by the ribs *o*, as specified. 12th. The combination in a car lamp of draft tubes, a casing H, a perforated casing G connecting with said casing H and surrounding said tubes, a downwardly projecting deflector plate M, a globe or combustion chamber H^1, the inlet to said combustion chamber being through the perforations in the casing G, and exit passages for the products of combustion arranged within the casing H and casing G, as specified. 13th. A car lamp having its combustion chamber located within the car, exit passages therefrom extending through the roof of the car, a casing surrounding said exit passages and extending from within the the car through the roof thereof, and means for supplying air to the combustion chamber from the interior of the car around the top of said casing, as specified. 14th. The combination in a car lamp, of a funnel N extending between the decks of a car roof, a casing H within said funnel N, a combustion chamber, draft tubes communicating with said combustion chamber and located within the casing H whereby air may be conveyed from the interior of the car to the outside between the casing H and funnel N and to the combustion chamber around said casing H, substantially as and for the purposes specified.

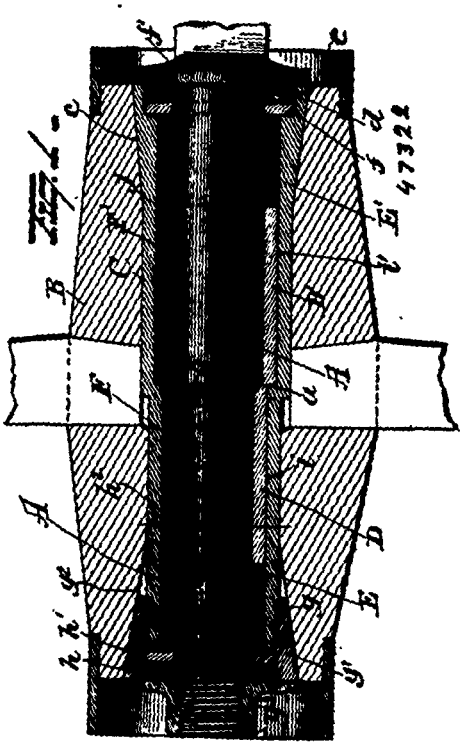
No. 47,321. Hand Car. (*Char à Bras.*)



Adrian Hitt, Jersey City, New Jersey, Harry G. Simon and Israel Jones Cobin, New York, State of New York, all in the U.S.A., 23rd October, 1894; 6 years.

Claim.—1st. In a hand-car, the combination of a swinging link projecting below the platform, a crown wheel mounted below the platform so as to rotate in a plane parallel therewith, a gear on the driving axle of the car meshing with said crown wheel, a connection between said crown wheel and the swinging link and a removable operating lever engaging with said swinging link and projecting above the platform, substantially as shown and described. 2nd. In a hand-car, the combination of a swinging link pivoted in the framing or platform of the car and projecting below said platform, a crown wheel mounted below the driving axle of the car so as to rotate in a horizontal plane, a gear on the said driving axle meshing with said crown wheel, a connecting rod between said swinging link and said crown wheel and a removable operating lever engaging with said link and projecting above the platform, substantially as shown and described. 3rd. In a hand-car, the combination with the axle and the driving mechanism, of a crown wheel gearing with the axle, a ratchet disc connected with the driving mechanism, and a reversible pawl arranged to be actuated by the movement of the car, and forming an engagement between the said wheel and said disc, substantially as shown and described. 4th. In a hand-car, the combination with the axle and the driving mechanism, of a crown wheel gearing with the axle, a ratchet disc connecting with the driving mechanism, a reversible pawl carried by said crown wheel and arranged to form an engagement with said disc, add mechanism for actuating said pawl, substantially as shown and described. 5th. In a hand-car, the combination with the axle and the driving mechanism, of a crown wheel gearing with the axle, a recessed disc connected with the driving mechanism, a reversible pawl carried by said crown wheel so as to engage with the recesses of said disc, and mechanism substantially described for reversing said pawl when the movement of the car is reversed, substantially as shown and described. 6th. In a hand-car, the combination with the axle and the driving mechanism; of a crown wheel gearing with the axle, a recessed disc connected with the driving mechanism, a reversible pawl acrried by said crown wheel so as to engage with the recesses of said disc, and a trip for reversing said pawl when the movement of the car is reversed, substantially as shown and described. 7th. In a hand-car, the combination with the axle, and the driving mechanism, of a crown wheel gearing with the axle, a recessed disc connected with the driving mechanism, a pawl carried by said disc and arranged to lock the disc and wheel when the latter is moved in one direction, and a trip for reversing said pawl so as to lock the disc and wheel when the movement of the latter is reversed, substantially as shown and described. 8th. In a hand-car, the combination of the driving mechanism, axle, gear-wheel, crown-wheel, disc and reversible pawl, with a yielding trip for reversing the position of the pawl, substantially as shown and described. 9th. In a hand-car, the combination of the driving mechanism, axle, gear-wheel, crown wheel, disc, trip and reversible pawl, with a spring for retaining the pawl in position, substantially as shown and described. 10th. In a hand-car, the combination with a removable operating handle and a spring clip below the platform, provided with a lever extending through the platform, for holding the operating handle in its socket, substantially as shown and described.

No. 47,322. Roller Bearing. (*Coussinet anti-frottant.*)



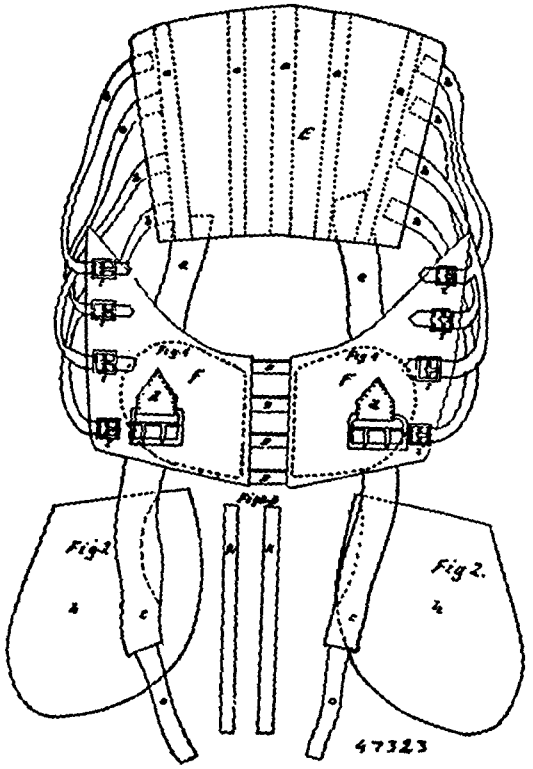
James C. Bradley, assignee of Byron Dustin Tabor, both of Wilson, New York, U.S.A., 23rd October, 1894; 6 years.

Claim.—1st A bearing comprising a journal, a casing surrounding the journal, a split or slotted sleeve, rollers at one end of said split

sleeve bearing upon the journal and abuting on the end of the sleeve, and a long roller extending through the split sleeve, substantially as set forth. 2nd. A bearing comprising a journal, a casing surrounding the journal, a split sleeve surrounding the journal and interposed between the latter and the casing, rollers at one end of the sleeve, means at the outer end of the rollers to retain them in place and a long roller lying in the slit or slot in the split sleeve and extending between the other rollers, substantially as set forth. 3rd. The combination with a casing having an annular shoulder between its ends, and a shaft or axle having an annular shoulder between its ends, of two sleeves located in said casing and bearing respectively against said annular shoulders, each of said sleeves being slotted longitudinally, rollers between the ends of said sleeves and the ends of the casing, and a long roller in the slot of each sleeve, each long roller constituting one of each first mentioned series of rollers, substantially as set forth. 4th. The combination with a casing having a diameter larger at one end than at the other and a shaft or axle having a larger diameter at one end than at the other, sleeves located in both parts of the casing and each having a longitudinal slot, a series of rollers coincident with the end of each sleeve, and a long roller in the slot of each sleeve and constituting one of said first mentioned series of rollers, substantially as set forth. 5th. The combination with a hub and axle, the bore of the hub tapering at one end, of a hub box screw threaded at one end, a ring having a tapering exterior, said ring adapted to screw on the threaded end of the hub-box and fit the tapering end of the hub bore, a nut adapted to screw on the end of the axle and bear on the ring, and a washer in the space or chamber formed between the nut and the hub box and surrounded by the ring, substantially as set forth.

No. 47,323. Female Abdominal Support.
(*Suspensoir abdominal.*)

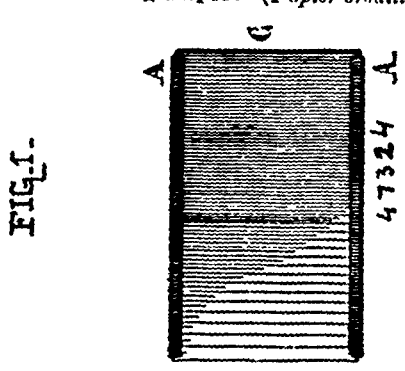
Fig. 1



Barbara Gregg, wife of Hugh Gregg, both of Uxbridge, Ontario, Canada, 23rd October, 1894: 6 years.

Claim.—1st. An abdominal supporter which is composed of a back part E, in which are inserted five or other number of stiffeners A, and adjustable straps B, and by straps C, disposed as shown in drawings, two front or abdominal parts F, united by means of elastic bands, the said parts F being provided with buckles I, and to adjustably receive the straps P, substantially as and for the purpose hereinbefore set forth. 2nd. An abdominal supporter having a back portion E, and means for stiffening same, two front portions F, elastically united and having straps for uniting the front to the back portion as shown in drawings, the said front or abdominal portions having zinc or other suitable plates H, as shown in drawings, substantially as and for the purpose set forth. 3rd. An abdominal supporter having a back part E, means for stiffening same, two front portions elastically united across the abdomen and united by two adjustable straps passing between the hips or thighs to the back portion, substantially as and for the purpose hereinbefore set forth.

No. 47,324. Blotting Paper. (*Papier brouillard.*)

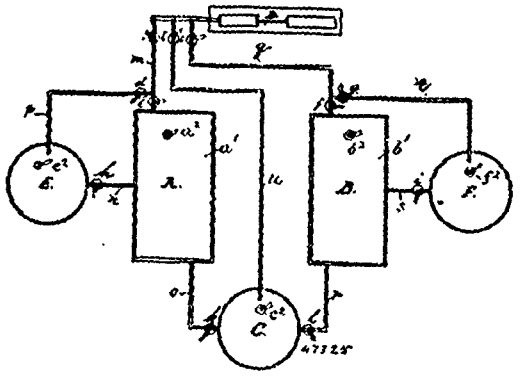


Marcel Bernède, Bordeaux, France, 23rd October, 1894; 6 years.

Claim.—A blotter pad comprising the base E, the U-shaped pieces secured along the edges thereof, the paste-board backing B, and the blotter sheet adapted thereto, and to the U-shaped pieces, substantially as described.

No. 47,325. Process of and Apparatus for Manufacturing Artificial Marble. (*Procédé et appareil pour la fabrication du marbre artificiel.*)

Fig. 1.



Hugo Adalbert Majewski, Berlin, Germany, 24th October, 1894; 6 years.

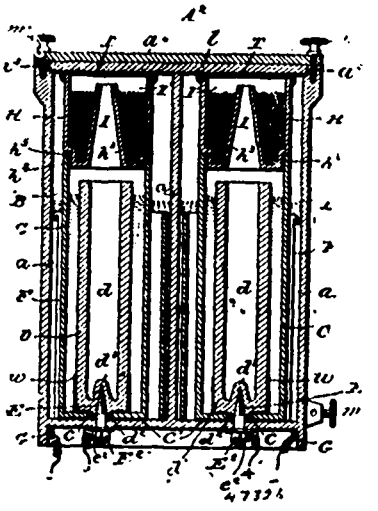
Claim.—1st. The process, substantially as described, of manufacturing artificial marble, which consists in expelling the moisture and air from natural gypsum, subjecting the latter while in vacuo to a solution of sulphite of potassium, and then treating said gypsum to a solution of alum or equivalent hardening agent. 2nd. The process, substantially as described, of manufacturing artificial marble from natural gypsum or alabaster, which consists in expelling the moisture therefrom by heat, exhausting the air therefrom while enclosed in a suitable air-tight receptacle, treating the same while in vacuo to a solution of sulphite of potassium, and then treating it to a hardening solution such as alum or its equivalent. 3rd. The process, substantially as described, of manufacturing artificial marble from natural gypsum, which consists in exhausting the air from the dehydrated gypsum, treating the same while in vacuo to a diluted solution of sulphite of potassium, then treating the same to solution of alum or equivalent hardening agent and finally drying the same. 4th. An apparatus for treating dehydrated gypsum in the process of manufacturing artificial marble, which consists in a series of closed tanks, one for the reception of a solution of sulphite of potassium, and one for the reception of a hardening solution, said tanks being in operative connection by means of valved pipes, with each other and with an air-pump, substantially as described. 5th. The combination in an apparatus for treating dehydrated gypsum in the manufacture of artificial marble from gypsum, of a tank for the reception of the gypsum, a tank for the reception of a solution of sulphite of potassium, a tank for the reception of a hardening solution, an air-pump, pipes for connecting said solution holding tanks with said gypsum holding tank and with said air-pump respectively, and a series of valves whereby a vacuum may be formed in said gypsum holding tank, and said respective solutions may be transferred to and from the same, substantially as described.

No. 47,326. Primary Battery. (*Pile électrique.*)

Charles Jones Hubbell, New York, State of New York, U.S.A., 24th October, 1894; 6 years.

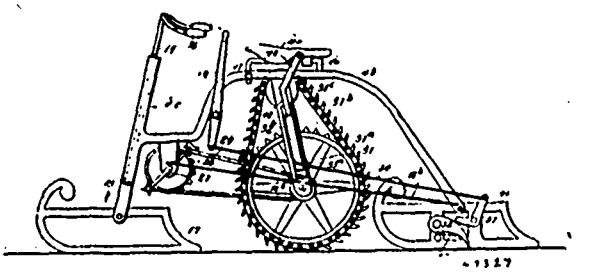
Claim.—1st. A primary battery having a positive element pro-

vided with two terminal projections, and two negative terminals imbedded in the battery casing and terminating in exposed contacts located within the battery casing and below the upper edge of said positive element and having each a separable contact with one of



said terminal projections, substantially as specified. 2nd. A primary battery having two negative terminals imbedded in the battery casing with exposed contacts located below the upper edge of the positive element, and a positive element having two contact projections at its upper portion arranged to rest upon the exposed portions of said negative terminals, substantially as specified. 3rd. In a primary battery, the combination, with the casing provided with inwardly extending ribs, of the terminals imbedded in said ribs and having exposed ends, of the zinc plate having two projections, each contacting with one terminal at its exposed end, substantially as set forth. 4th. In a primary battery a positive plate having a contact projection thereon, and a negative terminal terminating in an exposed contact cap to receive the end portion of said projection, said contact cap being below the level of the electrolyte, and an impervious covering for the contacting parts whereby they are protected from the action of the electrolyte, substantially as specified 5th. In a primary battery, a zinc plate having two terminal projections, two negative terminals, imbedded in the walls of the battery casing and terminating in exposed contacts located within the battery casing, and below the upper edge of said zinc plate, and having each a separable contact with one of said terminal projections, and a carbon element having its terminal contact at the bottom, substantially as specified. 6th. The combination, with a primary battery, containing a porous cup, two generating elements and solutions, one for each generating element, of a liquid tight stopper covering the porous cup, said stopper having an oxidizing chamber therein communicating with the porous cup, said stopper being arranged to prevent the fumes from said cup coming in contact with the outer electrolyte of the battery, substantially as specified. 7th. The combination, with a primary battery having a cover and containing a porous cup, of a reservoir separate from said cover and secured to said cup independently of the cover and communicating with said cup, and absorbent material in said reservoir, substantially as specified. 8th. In a primary battery, the combination with a porous cup, of a stopper therefor having two communicating chambers, one of which opens into the cup, the other of said chambers having a filling of absorbent and oxidizing material, substantially as specified. 9th. The combination, with a primary battery having a porous cup of a reservoir, secured thereabove and having a receiving chamber for the fumes and a chamber for the absorbent agent, said chambers being communicating, substantially as set forth. 10th. The combination, with a primary battery having a cover, of a two part reservoir, supplemental to the cover having two concentric communicating chambers, one of which is charged with absorbent material and the other of which opens into the porous cup of the battery, substantially as set forth. 11th. The combination, with a primary battery of a reservoir above the electrolyte in the porous cup and having two communicating chambers one of which is tapering with an aperture in its apex leading into the other of said chambers, said other chamber being charged with absorbent material, said tapering chamber opening into the porous cup, substantially as set forth. 12th. The combination, with the casing having an aperture in its bottom, of a porous cup having a recess in its bottom, a carbon having a boss fitting in said recess in said cup, and a terminal passing through said aperture and secured in said boss, substantially as set forth. 13th. A primary battery having a porous cup and a carbon secured in said cup, and a coating of a suitable japan such as a mixture of beeswax and asphalt, between the meeting surfaces of said carbon and cup, said japan being baked, substantially as specified. 14th. A primary battery having a porous cup and a carbon element secured in said cup, of a suitable japan such as a mixture of beeswax and asphalt, between the meeting faces of said carbon and cup and around the lower portion of the carbon, said japan being baked to render it impervious to the attacks of the electrolyte and to prevent leakage and capillary action, substantially as specified.

No. 47,327. Velocipede. (*Vélocipède.*)



Samuel Young and Michael A. Powers, both of Ontonagon, Michigan, U.S.A., 25th October, 1894; 6 years.

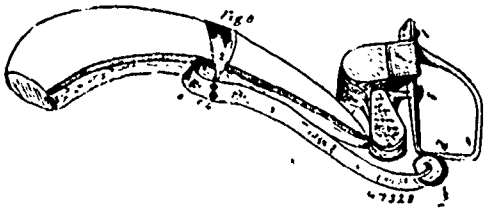
Claim.—1st. In a velocipede, the combination with a body supported upon runners, of sprocket-wheels mounted one above the other in supports carried by the body between the runners, the lower sprocket-wheel being a large one, a chain passing around the sprocket-wheels and provided with spurs, a pedal shaft mounted in the forward part of the body, and gearing between the pedal shaft and the large sprocket-wheel, substantially as described. 2nd. In a velocipede, the combination with a body supported on runners, of a sprocket-wheel mounted in a hanger on the forward part of the body, a large sprocketw-heel mounted in yielding bearings in rear of the first named sprocket-wheel, a small sprocket-wheel connected with the large sprocket-wheel, a chain passing around said small sprocket wheel and the sprocket-wheel at the forward part of the body, a sprocket-wheel above the large sprocket-wheel, and a chain having spurs thereon and passing around the large sprocket-wheel and the sprocket-wheel above the same, substantially as described. 3rd. In a velocipede, the combination with a body supported on runners, and a driving mechanism, of a saddle on the body, spring-pressed slides, and rods connected with the slides and upon which the saddle rests, substantially as described. 4th. In a velocipede, the combination with a body supported on runners, of slide frames depending from the body, spring pressed slides in said frames, a sprocket-wheel mounted in the lower ends of the slides, a sprocket-wheel mounted in the upper ends of said slides, a chain passing around said sprocket wheels, and provided with spurs, and an operating mechanism, substantially as described. 5th. In a velocipede, the combination with a body supported on runners, of slide frames depending from the body, spring-pressed slides in the said frames, sprocket-wheels mounted in the said slides, a chain passing around the sprocket wheels and provided with spurs, an operating mechanism, a saddle on the body, and rods secured to the slides and upon which the saddle is supported, substantially as described. 6th. In a velocipede, the combination with a body in the shape of a horse and supported in front on a single runner and at the rear on two runners, of slide frames depending from the rear part of the body, spring-pressed slides in the frames, a large sprocket-wheel mounted on the lower ends of the slides, a small sprocket-wheel mounted in the upper ends of the slides, a chain passing around the sprocket-wheels and provided with spurs, a sprocket-wheel secured to the large sprocket-wheel, a hanger at the front of the body, a pedal shaft mounted in the said hanger, a sprocket-wheel on the shaft, and a chain passing around the said sprocket-wheel and the sprocket-wheel secured to the said large sprocket-wheel, substantially as described. 7th. A velocipede comprising a body in the shape of a horse, the front legs being curved as shown, a steering rod mounted in the front portion of the body, a runner on the lower end of the rod, a runner on each hind leg, a hanger secured to the front legs, a pedal shaft mounted in the hanger and provided with a sprocket-wheel, slide frames in rear of the hanger, spring pressed slides in the frames, a large sprocket-wheel in the lower ends of the slides, a sprocket-wheel in the upper ends of the slides, a chain provided with spurs passing around the sprocket-wheels, a sprocket wheel secured to the large sprocket-wheel, a chain passing around the said sprocket-wheel and the sprocket-wheel of the pedal shaft, a saddle on the body, and rods connected to the slides and upon which the saddle is supported, substantially as shown and described.

No. 47,328. Shaft Holder. (*Tuteur de limonière.*)

William McKone, Neepawa, and Samuel McKone, Rosedale, both in Manitoba, Canada, 25th October, 1894; 6 years.

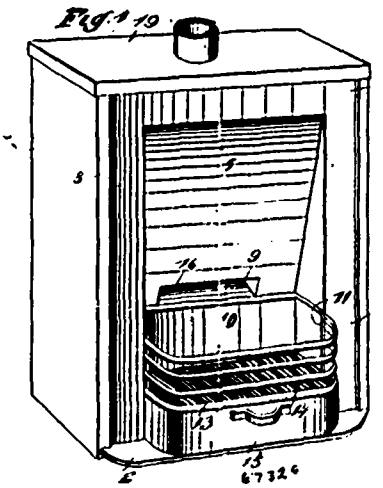
Claim.—1st. In a carriage shaft or thill support, a spring that conforms to the curvature of the lower side of the shaft, having a shoulder on one end, and a slit in the other for the purpose of allowing a wheel to be inserted therein, substantially as described. 2nd. In a carriage shaft or thill support, a skeleton block having three sides, as represented in Fig. 5, one side being flat and tapered, one side forming a sligtly acute angle with the flat side, the other side being in the form of the arc of a circle, the outside of these two

being convex so as to allow the wheel, as represented by Fig. 2 to run thereon, substantially as described. 3rd. A carriage shaft or



hill support comprised of the spring *a*, the wheel *b*, skeleton block, and clips all formed and arranged and combined as and for the purpose hereinbefore set forth.

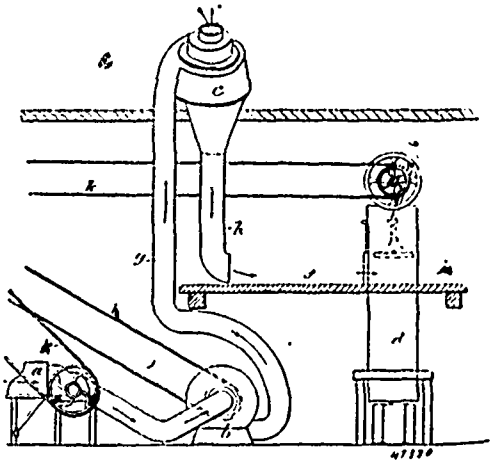
No. 47,329. Open Grate Heater. (*Grille ouverte.*)



John Lawlor, Brooklyn, and Mary R. Geis, New York, both in the State of New York, U.S.A., 25th October, 1894; 6 years.

Claim.—1st. In an open grate heater, the combination with the front frame of a closed top fire-box comprising opposite side walls, a lower straight back wall, and a forwardly and upwardly inclined baffle wall or plate extended above the straight back wall, and meeting the front frame at its upper end in a closed joint, said fire-box being provided with a draft opening at the intersection of the baffle wall or plate and the straight back wall, and a fire grate supported within the fire-box in front of and below the draft openings therein, substantially as set forth. 2nd. In an open grate heater, the combination with the front frame, and base plate, of a closed top fire-box arranged at one side of the front frame and provided with an upper inclined baffle wall or plate meeting the front frame in a closed joint and forming the enclosing top of the fire-box and a portion of its rear wall, and a horizontally arranged draft opening or slot at the lower terminal of the incline baffle wall or plate, a draft-box secured to the rear side of the fire box over the draft opening or slot therein, a smoke pipe connected with said draft box, a supplemental pipe connected at one end to said draft box and opening into the smoke pipe, and a fire grate removably supported within the fire box below and in front of its draft opening or slot, substantially as set forth. 3rd. In an open grate heater, the combination, with the closed fire box of the fire back arranged within the fire box, opposite keepers arranged at the front extremities of the fire back, a removable fire grate provided with an open front wall and opposite supporting plates adapted to removably engage said keepers, and a removable ash pan arranged to be supported on the base plate under the fire grate and having its front wall of a height equalling the space between the base plate and the bottom of said grate, substantially as set forth. 4th. In an open grate heater, the combination of the frame base plate provided with a series of bottom projected feet to elevate the same above its support and form a draft space thereunder, the inclosed fire box supported on the base plate and provided with an intermediate draft opening or slot, a smoke pipe connected with said opening or slot, the fire grate removably supported within the fire box below and in front of its draft opening or slot, and a separate foul air pipe arranged in rear of the fire box and leading into said smoke pipe, substantially as set forth. 5th. In an open grate heater, the combination of the frame base plate provided with a series of bottom projected feet, the closed fire box supported on the base plate, the fire grate removably supported within the fire box, and a portable heater casing adapted to inclose the fire box and to rest at its lower end on the support of the base plate, and provided with a removable flanged top plate having a pipe opening, the smoke pipe for the fire box fitted in said pipe opening, and a foul air pipe arranged within the casing and leading into the smoke pipe, substantially as set forth.

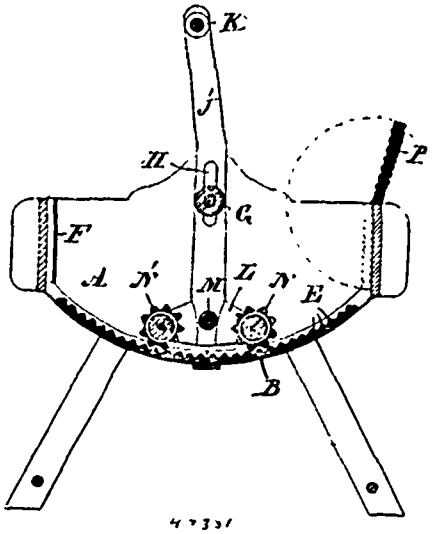
No. 47,330. Process of Preparing Fodder for Shipment. (*Procédé pour préparer le fourrage pour le chargement.*)



John Crowe and Antoine Leonidas Hurtubuise, both of Montreal, Quebec, Canada, 25th October, 1894; 6 years.

Claim.—1st. In the process of preparing fodder for shipment, first cutting the hay or other fodder into small lengths or particles, removing the dust therefrom, and finally pressing it into bale form. 2nd. In the process of preparing fodder for shipment, first cutting the hay or other fodder into small lengths or particles, elevating the fodder and dust thereof to a suitable separator, removing the dust, and feeding it into a baling press wherein it is subjected to pressure and wired or bound in bale form.

No. 47,331. Washing Machine. (*Machine à laver.*)



Duncan D. McDougall, Alexandria, Ontario, Canada, 25th October, 1894; 6 years.

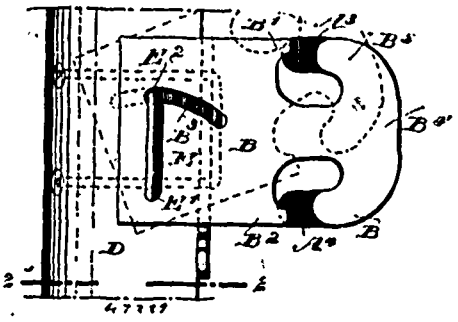
Claim.—1st. In combination with the suds trough or box A, having a concave bottom B, the removable internal false bottom C, constructed in sections and corrugated, as set forth. 2nd. The combination with the suds trough, having an internal false bottom C, of the washboard P, hinged to one end of the suds box, and opening outwardly to release said bottom, as set forth. 3rd. The combination with the suds trough or box A, having a removable false bottom C, and washboard P, of an oscillating rubber, comprising the bars J, J¹, provided with slots H, H¹, and connected by a handle L, the heads L L, secured to said bars and connected by a bar M, the corrugated rollers N, N¹, journalled to said heads, and the rock shaft G, passing through said slots, as set forth.

No. 47,332. Hame Hook. (*Crochet d'attelles.*)

William Whitefield Miller, Mamphis, Tennessee, U.S.A., 25th October, 1894; 6 years.

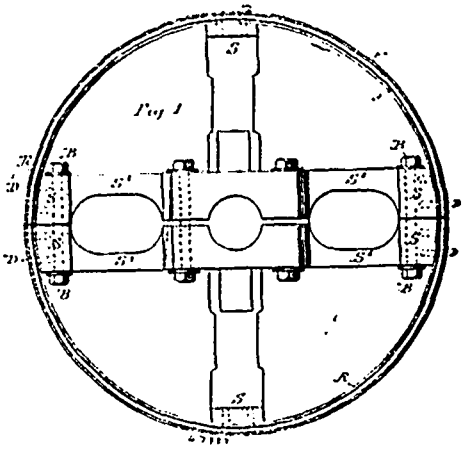
Claim.—1st. A hame hook comprising a stationary plate having

forwardly-projecting hooks on its upper and lower edges, and a movable plate pivoted to swing in a plane parallel to the stationary plate, and also having forwardly-projecting hooks on its upper and lower edges, registering with, but of less length than, the hooks on



the stationary plate, the movable plate having top and bottom tongues or portions B^1, B^2, overlapping the ends of the hooks on the stationary plate, substantially as described. 2nd. A hame hook, comprising the inclined stationary plate having an attaching flange A^2, at its forward end, and provided with upper and lower forwardly-projecting hooks A^3, A^4, at its rear and at right angles to the flange, and the pivoted plate parallel with said hooks, and having a curved slot and provided at its rear free end with top and bottom hooks B^5, B^6, registering with but of less length than the hooks A^3, A^4, projecting portions B^1, B^2, of the pivoted plate overlapping the ends of the hooks A^3, A^4, and a stop extending through the said curved slot to limit the movement of the pivoted plate, substantially as described. 3rd. A hame hook comprising a fixed plate having two hooks at the top and bottom edges, and an auxiliary hook A^5, at the lower end at right angles to the said two hooks, and a lock plate pivoted on the hame, and having a limited swinging movement, the said plate being provided with tongues adapted to overlap the fixed plate hook, substantially as shown and described.

No. 47,333. Wooden Pulley. (*Poulie en bois.*)



Maurice William Smith, Lynhurst, Norwood, London, England, 25th October, 1894; 6 years.

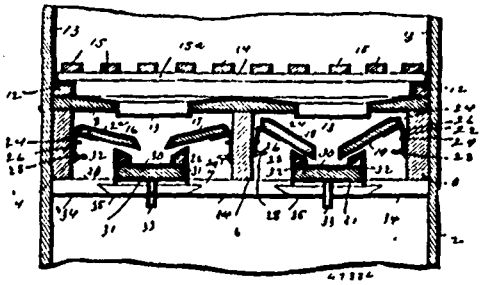
Claim.—1st. Constructing wooden pulleys with the rims built up of a series of separate layers or veneers of wood permanently glued and fixed together and bent to the required radius, the grain of the wood in the outer layer and its alternate layers being disposed circumferentially, and that of the second layer and its alternate layers transversely, substantially as and for the purposes set forth. 2nd. In wooden pulleys having compound rims constructed as above described and claimed, the method of securing the spokes to the rim by taper-headed wooden dowels, with lateral pins if required, substantially as above set forth. 3rd. The construction of wooden pulleys in the manner above described and illustrated in the drawing.

No. 47,334. Drip-Troughs for Refrigerators.

(*Auget pour réfrigérateurs.*)

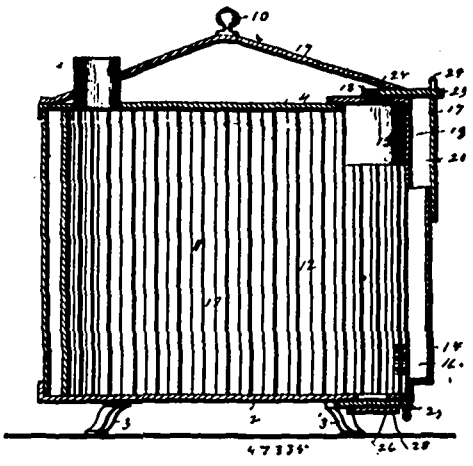
Christian W. Heinrichs, St. Louis, Missouri, U.S.A., 25th October, 1894; 6 years.

Claim.—1st. In a refrigerator, a rectangular framework, drip-shelves mounted upon said framework in approximately horizontal planes, metal plates covering said drip-shelves and extending below the plane thereof, valves pivotally mounted beneath said drip-shelves and provided with clips whereby they may be manipulated and secured in stationary positions, metal plates mounted upon said valves, and a metal-lined inclined trough located beneath the lower edges of the said valve and adapted to receive the drip therefrom in combination with an ice-rack mounted above said drip-shelves, as



set forth. 2nd. In a refrigerator, a rectangular framework composed of joists 4, 5, 6 and 7, carrying metallic-covered drip shelves 8, 9, 10 and 11, adjustable wings or valves 16, 17, 18 and 19, clips 25, secured to said valve or wings and metallic lined and inclined drip troughs removably mounted in the before mentioned framework, substantially as herein specified.

No. 47,335. Heating Stove. (*Poêle.*)



James Wilson, St. Louis, Missouri, U.S.A., 25th October, 1894; 6 years.

Claim.—1st. The improved stove having a vertical draft pipe 14 provided with an open upper end and a closed lower end, a fuel opening 15 formed in the upper portion of the stove adjacent the open upper end of said draft pipe, said draft pipe having an opening adjacent its lower end which connects it with the interior of the stove, a door hinged to the stove so as to cover said fuel opening, an upper section 20 of the draft pipe carried by said door and swinging therewith, and a damper also carried by said door and adapted to control the draft through said upper section, substantially as herein specified. 2nd. The improved stove, comprising an outer casing 1, a bottom 2, a top 4 having openings 5 in which cooking utensils may be placed, a vertical draft pipe 14 provided with an open upper end and a closed lower end, a fuel opening 15 formed in the upper portion of the stove adjacent the upper end of said draft pipe, said draft pipe having an opening adjacent its lower end which connects it with the interior of the stove, a door hinged to the stove so as to cover said fuel opening, an upper section of the draft pipe carried by said door and swinging therewith, a damper also carried by said door and arranged to control the draft through said upper section, a swinging stove top mounted upon the top 4 of the stove so as to cover the openings 5 therein and overlap the fuel opening 15 and a portion of said door, and a hinge or pivotal connection by means of which said stove top is secured to the stove, substantially as herein specified. 3rd. The improved stove, comprising a body 1 preferably made of sheet iron and elliptical in plan view, a bottom 2, a top 4 having suitable openings 5 in which cooking utensils may be placed, a fuel opening 15 formed partly in said top and partly in the vertical wall of the stove, a vertical draft pipe 14 having an open upper end and a closed lower end, the upper end opening at a point a short distance below said fuel opening, the vertical wall of the stove having a series of small openings 16 formed therein and connecting the interior of said draft pipe with the interior of the stove at a point adjacent the lower end of said pipe and adjacent the bottom of the stove, a combined draft damper and fuel door 17 provided with a horizontal top 18, and a front 19, which latter is curved to fit the front of the stove and depends from the horizontal top 18 a sufficient distance to cover the portion of the fuel opening which is formed in said vertical wall of the stove, a hinge for said door, said

horizontal top 18 being of sufficient size or area to cover the portion of the draft opening 15 which is in the top of the stove, an upper section 20 of the draft pipe secured to the front 19 of said door and projecting a distance below the lower edge thereof so as to overlap the exterior of the lower section 14 when the door is in a closed position and so that a continuous draft passage is formed in a vertical line from the bottom of the stove to the top thereof, the upper and lower ends of said upper section being normally open, a suitable latch or fastening for said door, and a damper arranged to close and open said draft pipe, substantially as herein specified.

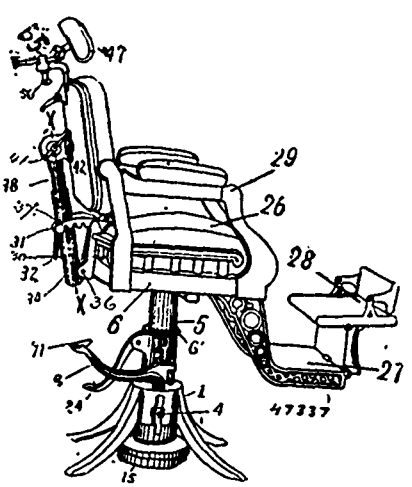
No. 47,336. Broadcast Seed Sower. (*Semoir.*)

Warren E. Pratt, Corunna, Michigan, U.S.A., 25th October, 1894; 6 years.

Claim.—1st. In a planter of the class described, a tube or pipe having its lower end provided with a series of teeth inwardly disposed, substantially as specified. 2nd. In a planter of the class described, a tube or pipe having its lower end provided with a series of teeth alternately inwardly disposed, substantially as specified. 3rd. In a planter of the class described, a tube or pipe having its lower end provided with teeth, some of which are inwardly disposed or bent, a transverse strip arranged in said tube or pipe, the lower edge of the same being toothed and deflected in reverse directions, substantially as specified. 4th. In a planter of the class described, a tube or pipe, combined with a diaphragm located therein, a slot adjacent to the diaphragm, an indicating plate arranged adjacent to the slot, a rotary cut-off pivoted to the diaphragm, and an arm extending from the cut-off and adapted to move over the plate, which latter is divided into degrees, substantially as specified. 5th. In a planter of the class described, the combination with a tube or pipe having a slot, a cresent-shaped diaphragm arranged above the slot and extending beyond the same to form an indicating plate and divided into degrees, of a cresent-shaped cut-off pivoted to the diaphragm, an arm extending from the outer edge of the cut-off to the slot and bent upwardly and inwardly forming an eye embracing the edge of the indicating plate and resting thereon where it is locked by fractional contact therewith, substantially as specified. 6th. In a planter of the class described; a tube or pipe having its lower end provided with a series of teeth, and a transverse strip arranged in said tube or pipe and also having a toothed lower edge, substantially as set forth.

No. 47,337. Dental Chair.

(*Chaise pour opération dentaire.*)

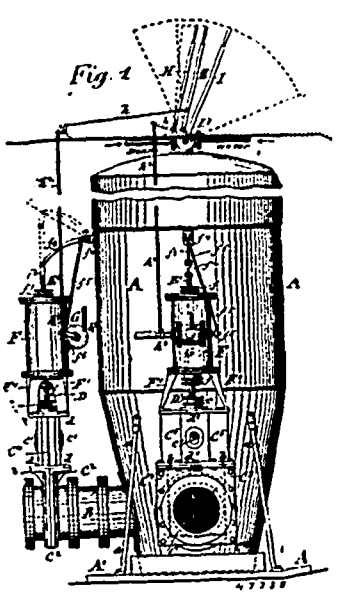


The Archer Manufacturing Company, assignee of George Washington Archer, both of Rochester, New York U.S.A., 25th October, 1894; 6 years.

Claim.—1st. In a chair, the combination, with the supporting-base having the socket, of the pedestal on which the chair is mounted, supported and adapted to be rotated therein, the locking cam pivoted in the supporting-base with its face engaging the pedestal and having the two operating arms on opposite sides of the pivot, whereby upon pressing upon one or the other of said arms the cam can be engaged or disengaged from the pedestal, substantially as described. 2nd. In a chair, the combination, with the chair standard and lifting devices therefor, of the pedestal having the inclined groove, the roller operating on the standard located therein, the foot lever having bifurcated end engaging the roller and the spring operating the foot lever, substantially as described. 3rd. In a chair, the combination, with the base or pedestal, the chair standard, lifting device therefor, and an automatic sustaining device operating directly on the standard, of the rotatable screw engaging the standard, and a brake or governor detachably connected with and actuated by the screw when moved in one direction only, substantially as described. 4th. In a chair, the combination, with the base or pedestal, the chair standard, lifting devices therefor, and a sustaining device, of the screw engaging the standard, and having the tapered block and the rotary brake or governor having the tapered socket for the block on the screw, substantially as described. 5th. In a chair, the combination, with the base or pedestal, the chair standard, lifting devices therefor, and a sustaining device, of the screw engaging the standard and having the tapered block, the rotary spider having the weighted arms and brake shoes and the socket for receiving the block on the screw, substantially as described. 6th. In a chair, the combination, with the pedestal, the chair standard, lifting device therefor, and a sustaining device, of the screw engaging the standard and having the tapered block thereon and the extension at the end, the rotary spider having the tapered socket and the weighted brake arms mounted on said extension, the rim with which the arms co-operate and the securing screws, substantially as described. 7th. In a chair, the combination, with the base having the socket, the pedestal supported therein, the standard, the standard raising and sustaining devices in the pedestal and the bottom pan secured to the lower edd of the pedestal, of the screw operating in the standard and having the tapered block, the rotary spider provided with the socket and the brake arms thereon, said spider supported on the bottom of the pan and the securing screw engaging the end of the first mentioned screw, substantially as described. 8th. In a chair, the combination with the seat, of the back supporting standard, the notched arms or links pivoted to the seat and engaging projections on the back support, and the depending loop loosely connected to the links and passing around the back supporting standard, whereby the back may be supported by the links, or may be lowered and supported in extreme position by the loop, substantially as described. 9th. In a chair, the combination with the seat, the telescoping back support, one section having the annular head and the other pivoted to the seat, of the bracket sections secured to the back co-operating with the head, the securing screw engaging the bracket sections, clamping them to the head, and the notched links pivoted to the seat and engaging the back support, whereby the back may be adjusted vertically and the support tilted, substantially as described. 10th. The combination with the head-rest pad having the two rearwardly extending arms of the supporting stem constructed in two telescoping parts, both parts being pivoted to the head-rest, and provided with right and left threads and a screw screwing into one section and onto the other to provide for their relative adjustment, substantially as described.

No. 47,338. Steam Vacuum Pump.

(*Pompe à vide à vapeur.*)

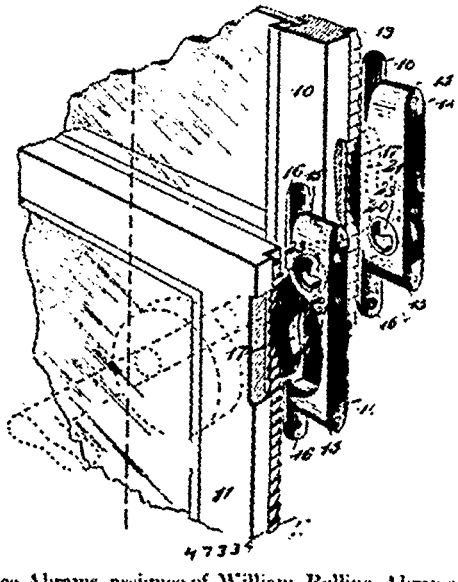


The Mining and Dredging Power Company, Assignee of Levi Hussey, both of New York, State of New York, U.S.A., 25th October, 1894; 6 years.

Claim.—1st. The combination of a pump-chamber, suction and discharge pipes arranged at the lower part of the same, gates guided in casings in said pipes, air tight chambers provided with ways arranged above the guideways in said casings, said chambers being

provided with stuffing-boxes at their upper ends for the stems of the valves, so as to prevent access of air to the air-chambers, gates and pumps, substantially as set forth. 2nd. The combination of a pump-chamber, suction and discharge pipes at the lower part of the same, gates guided in casings in said pipes, gate-actuating cylinders above said gates, and pistons in said cylinders connected with said gates, a valve-chest, oscillating-valves in said valve-chest, said chest and valves being provided with inlet, exhaust and cushioning-ports, means for connecting the piston-rods with the main oscillating-valves, for automatically setting said valves, and a lever mechanism for operating the oscillating interior or operator's valves for admitting the actuating-medium to the cylinders, substantially as set forth. 3rd. The combination, with a pump-chamber, of suction and discharge-pipes arranged at the lower part of the same, gates guided in casings of said pipes and air-tight chambers arranged above the guide-ways of said gates, said chambers being made in two sections provided with ways in line with the ways in the casings, and with a stuffing-box on the upper ends for the stem of the gate, substantially as set forth. 4th. The combination, of a pump-chamber, having suction and discharge-pipes, gates guided in casings or said pipes, air-tight chambers provided with the ways for said gates, upright brackets supported on said chambers, and gate-actuated cylinders supported on said brackets, substantially as set forth. 5th. The combination, of a pump-chamber provided with a two-way supply-valve for the water and steam, suction and discharge-pipes at the lower part of the pump chamber, gates located in said pipes, gate-operating cylinders above said valves, valve-chests on said cylinders, exterior main-valves in said chests, interior operator's valves, said chests and valves having inlet, exhaust and cushioning-ports, means for connecting the piston-rods of the cylinders with the main-valves, and levers connected with the interior or operator's valve, said levers admitting live steam, so as to operate the pistons and gates, while the connection of the piston-rods with the main-valves produces the cutting-off of the steam, and the proper cushioning of the pistons and gates, substantially as set forth. 6th. In a vacuum pump, the combination with a pump-chamber having a suction or discharge-pipe, a gate guided in a casing in said pipe, a gate-actuating cylinder, a piston in said cylinder, a stem connecting the gate with the piston, a piston-rod guided in the upper head of the cylinder, a valve-chest on the cylinder, an oscillating main-valve in said chest, an oscillating interior or operator's valve in the main-valve, said chest and valves having inlet, exhaust and cushioning-ports, a lever connection between the piston-rod and main-valve, and an actuating-lever connected with the operator's valve, substantially as set forth.

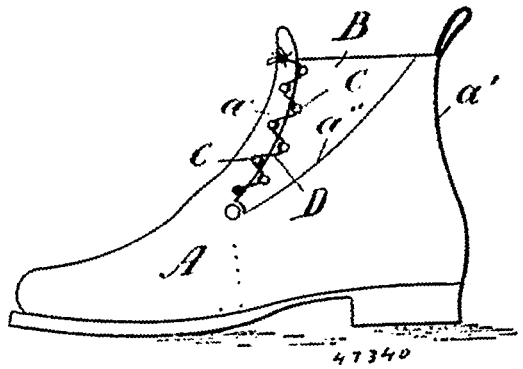
No. 47,339. Sash-Lock. (*Serrure de fenêtre.*)



Eliza Alice Abrams, assignee of William Rollins Abrams, both of Los Angeles, California, U.S.A., 25th October, 1894; 6 years.

Claim.—1st. The improvement in sash-locks hereinbefore described, the same consisting of two toothed pawls whose teeth project in opposite directions, and provided with transverse bores arranged in alignment and having internal lugs which are out of alignment, a key adapted to be inserted in said bores and to engage either lug independently of the other as specified, and rack bars applied to the sash and having teeth projecting in opposite directions, as shown and described. 2nd. The combination, with the toothed bar applied to the sash, of the oppositely arranged spring pressed toothed pawls mounted in the frame to engage the bar, the pawls being transversely perforated and provided with internal lugs, and the two part key for entering the pawls to engage the lugs, the two parts of the key having cranks at their outer ends, substantially as described.

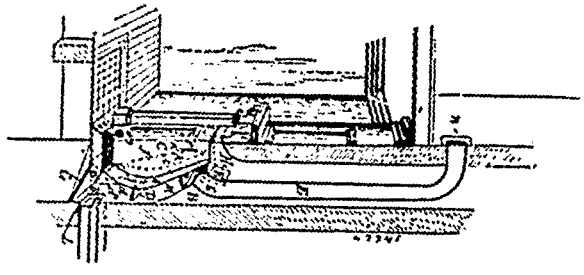
No. 47,340. Boot and Shoe. (*Chaussure.*)



John Maw, Alexandria, Ontario, Canada, 25th October, 1894; 6 years.

Claim.—1st. In a boot or shoe, the combination of an upper in one piece provided with a continuous tongue by an incision on each side, an insertion on each side continuing the quarter past the quarter edge of said incision to the front and meeting under the tongue, and two double lines of studs or hooks secured to said tongue and insertion adapted for connection by a lace, substantially as set forth. 2nd. In a boot and shoe, the combination of an upper in one piece provided with a continuous tongue by an incision on each side and an insertion continuing the quarter to the front past the quarter edge of said incision on each side and secured to said edge and forming the leg of the boot and meeting under the tongue, substantially as set forth. 3rd. An upper for a boot or shoe, being in one piece from front to quarter and formed with a continuous tongue by incisions extending from the top near the quarter to the instep, substantially as set forth.

No. 47,341. Fire Back. (*Dos de grille.*)



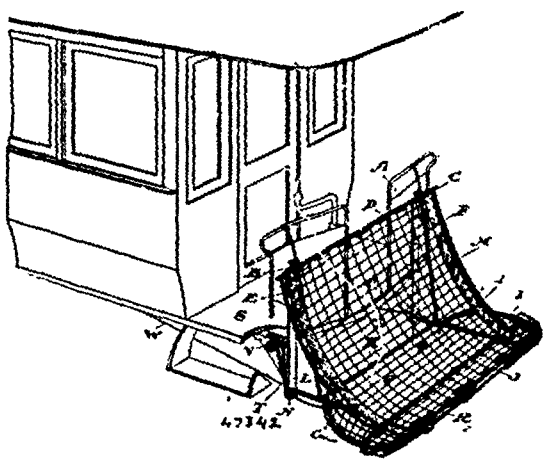
John G. Sheldon, Cleveland, Ohio, U.S.A., 25th October, 1894; 6 years.

Claim.—1st. In a removable fire back, the combination of front and rear plates A and B, end chambers formed of single plates C C, bent to form front and sides of the chambers, the third side being closed by the overlapping front and rear plates A and B, a top plate covering the chambers and a foundation plate on which they rest, substantially as described. 2nd. In a removable fire back, the combination of front and back plates A and B, partitions D D^1 and M, perforated at d d^1 and n and side chambers C, separated from the rear chamber by the front plate, perforated at a a^1, as and for the purpose set forth. 3rd. In a removable fire back, the combination of a rear chamber formed between front and back plates, side chambers closed in the rear by said front plate, a cover plate over the chambers, and foot plate underneath them, the front and back plates being provided with openings for air circulation, with partitions D D^1 and M, provided with openings for air circulation, substantially as described. 4th. In a removable fire back, the combination of a rear heating chamber formed of front and back plates A and B, side chambers inclosed by plates C on three sides, the fourth side being covered by the front plate to the rear chamber, inlet and outlet flues for air, and means for retarding the passage of the air through the chambers, consisting in the partitions M, D and D^1, provided with openings for the passage of air, and openings between the chambers, substantially as described. 5th. In a removable fire back, the combination of front plate A, provided with openings on its edges a, a^1, rear plate B provided with air inlet and outlet openings, and having its lower part extended to form an air box, partition D D^1 and M between said plates, perforated for air passage and side plates C, inclosing side chambers on three sides, and abutting on the fourth side against the plates A and B, with dampers I, over the openings in the partition D^1, substantially as described. 6th. In a removable fire back, the combination of front and back plates A and B, provided with air openings for circulation, the said plates being separated by perforated partitions, with side plates bent to inclose side chambers on three sides, one of the side walls formed by said plates in either side, extending to the rear plate

B, the other wall being shorter and extending to the plate A, substantially as described. 7th. In a removable fire back, the combination of a rear chamber formed by front and back plates, a side chamber formed of plates bent to inclose said chamber on three sides, and side plates abutting against the said front and back plates, as and for the purpose set forth. 8th. In a removable fire back, the combination of front and back plates A and B inclosing a heating chamber, partitions D D¹ separating said plates, and forming an air box, side chambers composed of plates C bent to inclose said chambers on the front and sides, the front plate A closing the side chambers on the fourth side, and provided with openings a, a^1, deflector plates in the side chambers over the openings a^1, and flues E and L entering the back plate B, all arranged substantially as and for the purpose set forth.

No. 47,342. Life Saving Guard for Cars.

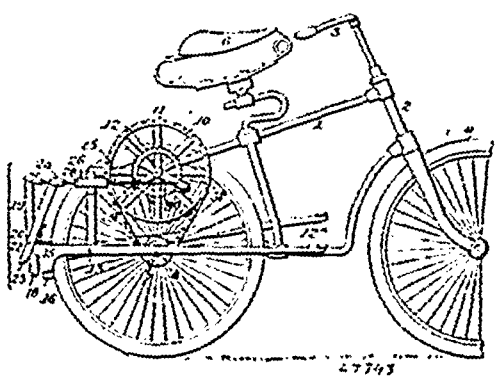
(*Défense pour chars.*)



Edward S. Piper, Toronto, Ontario, Canada, 27th October, 1894; 6 years.

Claim.—1st. A life saving guard for cars consisting of a substantially horizontal frame connected to the front of the car, means for holding the horizontal frame normally clear of the rails and so arranged as to permit the frame to be automatically depressed when coming in contact with an object and a netting connected to the frame and to the front of the car, substantially as specified. 2nd. A life saving guard consisting of a substantially horizontal frame, a netting connected to the horizontal frame and to the front of the car above the horizontal frame, means for supporting the horizontal frame and holding it normally clear of the rails, and so arranged as to permit of the front of the frame being partially depressed when coming in contact with an object, and means for automatically returning the frame to its normal position when freed from the object, substantially as specified. 3rd. A life saving guard consisting of a substantially horizontal frame, supports for the horizontal frame, the horizontal frame movable in the said supports, upwardly extending arms rigidly connected to the horizontal frame and pivotally connected to the front of the car, means for holding the horizontal frame normally clear of the rails, and so arranged as to permit of the front of the horizontal frame being depressed on coming in contact with an object, substantially as specified. 4th. A life saving guard consisting of a substantially horizontal frame connected to the lower part of the front of the car, a horizontal bar pivotally connected to the front of the car above the horizontal frame, arms depending from the horizontal bar and rigidly connected to the horizontal frame, and arranged to permit of the frame moving slightly forward or rearward, substantially as specified. 5th. A life saving guard consisting of a substantially horizontal frame, supports for the horizontal frame, a horizontal bar pivotally connected to the front of the car above the horizontal frame, arms depending from the horizontal bar, and rigidly connected to the horizontal frame, means for holding the horizontal frame normally clear of the rails, and so arranged as to permit the front of the horizontal frame being depressed on coming in contact with an object, and a netting secured to the horizontal frame and to the horizontal bar, substantially as specified. 6th. In a life saving guard, the combination of the brackets L, M, connected to the lower front of the car, a horizontal frame held by the brackets L, M, a horizontal bar D, pivotally connected to the front of the car above the horizontal frame, a netting P, connected to the horizontal bar, and to the horizontal frame, springs for normally holding the horizontal frame clear of the rails, substantially as specified. 7th. In a life saving guard, the combination of the brackets L, M, a horizontal frame, the side bars G, H, of which are held in the brackets L, M, a spring operated plate at the back of each of the brackets L, M, bearing on the side bars G, H, and arranged to normally hold the horizontal frame clear of the rails, a horizontal bar pivotally connected to the front of the car above the horizontal frame, a netting connected to the horizontal frame and to the horizontal bar, and a cushioned front for the said frame, substantially as specified. 8th. In a life saving guard, the combination of the brackets L, M, a horizontal frame the side bars G, H, of which are held in the brackets L, M, a spring operated plate at the back of each of the brackets L, M, bearing on the side bars G, H, and arranged to normally hold the horizontal frame clear of the rails, a horizontal bar pivotally connected to the front of the car above the horizontal frame, a netting connected to the horizontal frame and to the horizontal bar, and a cushioned front for the said frame, substantially as specified. 9th. In a life saving guard, the combination of the brackets L, M, a horizontal frame, the side bars G, H, of which are held in the brackets L, M, a spring operated plate at the back of each of the brackets L, M, bearing on the side bars G, H, and arranged to normally hold the horizontal frame clear of the rails, a horizontal bar pivotally connected to the front of the car above the horizontal frame, a netting connected to the horizontal frame and to the horizontal bar, and a cord attached to each of the spring operated plates and to the brake-rod, substantially as specified. 10th. In a life saving guard, the combination of the brackets L, M, a horizontal frame, the side bars G, H, of which are held in the brackets L, M, a spring operated plate at the back of each of the brackets L, M, bearing on the side bar G, H, and arranged to normally hold the horizontal frame clear of the rails, a horizontal bar pivotally connected to the front of the car above the horizontal frame, a netting connected to the horizontal frame and to the horizontal bar, a cushioned front for the said frame, and a cord attached to each of the spring operated plates and to the brake rod, substantially as specified. 11th. A life-saving guard for cars consisting of a substantially horizontal frame comprised of end bars I, J, and side bars G, H, extending rearwardly beyond the end bar I, brackets L, M, through which pass the ends of the side bars G, H, a spring operated plate at the back of each of the brackets L, M, bearing against the ends of the side bars G, A, a horizontal bar pivotally connected to the front of the car above the horizontal frame, arms depending from the horizontal bar and rigidly connected to the horizontal frame, and a netting connected to the front of the horizontal frame and to the horizontal bar, substantially as specified. 12th. A life-saving guard for cars consisting of a substantially horizontal frame, comprised of end bars I, J, and side bars H, H, extending rearwardly beyond the end bar I, brackets L, M, through which pass the ends of the side bars G, H, a spring operated plate at the back of each of the brackets L, M, bearing against the ends of the side bars G, H, a horizontal bar pivotally connected to the front of the car above the horizontal frame, arms depending from the horizontal bar and rigidly connected to the horizontal frame, a netting connected to the front of the horizontal frame and to the horizontal bar, and cords attached to the said plates, and arranged to be wound on the brake lever to remove the pressure of the plates from the ends of the side bars G, H, substantially as specified.

No. 47,343. Bicycle. (*Bicycle*)

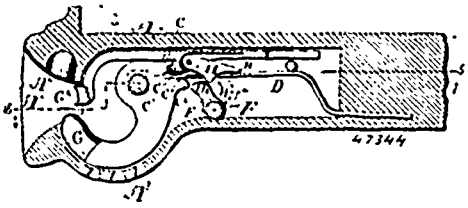


Arthur Clark Ferguson, Saratoga Springs, New York, U.S.A., 27th October, 1894; 6 years.

Claim.—1st. In means for propelling bicycles, the combination, with the drive wheel and suitable driving connections, of duplicate sprocket-wheels and ratchet devices, means for alternately driving said sprocket-wheels, treadle levers supported by the main frame, and intermediate connections between said driving mechanism and the rear ends of the treadle levers, substantially as described. 2nd. In means for propelling bicycles, the combination of the drive shaft provided with the smaller sprocket-wheels, the duplicate sprocket-wheels of enlarged diameters, together with their concentric ratchet-wheels, the drive rods and their pivoted portions, the swinging arms carrying the pawls and connected with said drive rods, the treadle levers, and means for operating said drive rods from said treadle levers, substantially as described. 3rd. In means for propelling bicycles, the combination of the duplicate enlarged sprocket-wheels, and driving connections between the same and the drive wheel of the machine, the alternately operating drive rods, the pivoted upright levers to which said rods are connected, the treadle levers, the intermediate movable blocks, and the springs tending to maintain a movable connection between said upright levers and the treadle

levers, substantially as described. 4th. In means for propelling bicycles, the combination of the treadle levers having their shorter arms extending rearwardly of the machine, and rounded off or cam-shaped at their extremities, the vertical or upright levers rounded off correspondingly at their lower ends, the pivoted intermediate blocks, the storing or power springs exerting a pressure against the upright levers, the drive rod and their appurtenances, and the duplicate enlarged sprocket-wheels in driving connection with the drive wheel, substantially as described. 5th. In means for propelling bicycles, the combination of the treadle levers, the vertical or upright levers, the movable blocks intermediate of said levers, the duplicate enlarged sprocket-wheels in driving connection with the drive wheel of the machine, the *ratchet-wheels carried by said enlarged* sprocket-wheels, and means for alternately operating said sprocket-wheels as the treadle levers are operated, substantially as shown and for the purpose set forth. 6th. In means for propelling bicycles, the combination of the duplicate sprocket-wheels, and driving connections between the same and the drive wheel of the machine, connections for operating said duplicate sprocket-wheels, and compound lever or treadle mechanism for operating said connections, substantially as described. 7th. In means for propelling bicycles, the combination, with the drive wheel of the machine, of an enlarged sprocket-wheel in driving connection therewith, a clutch device on each side of said sprocket-wheel and serving to propel the same forward, connections for operating said clutches, and compound lever mechanism for operating said connections, substantially as described.

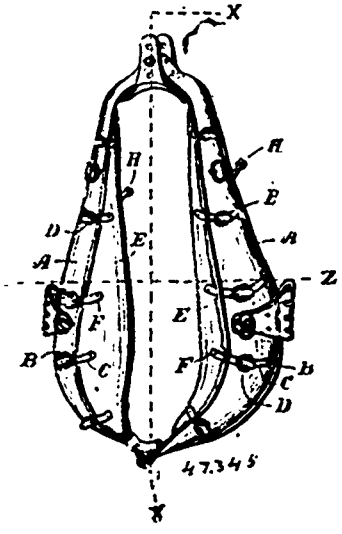
No. 47,344. Car Coupler. (*Attelage de chars.*)



William Dunlap, San Diego, California, U.S.A., 27th October 1894; 6 years.

Claim.—A car coupling, comprising the drawhead A, coupling hook C, trunnions C^1, C^1, spring D, slide C, dog H, cam E, shaft F, coupling F^1 connecting rod F^2, handle F^3, and loop F^4, all arranged, formed and operating, substantially as specified and for the purpose hereinafter set forth.

No. 47,345. Horse Collar. (*Collier de cheval.*)



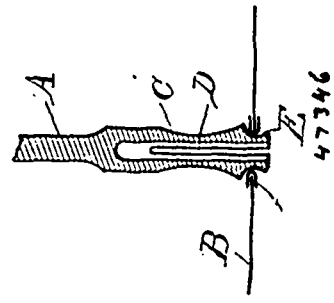
William Spraetzel, New Dundee, Ontario, Canada, 27th October, 1894; 6 years.

Claim.—1st. The combination of a steel collar A, of suitable form and size, having slots B, of air cushions E, and of straps C, substantially as and for the purpose hereinbefore set forth. 2nd. In a combination steel collar A, air cushion E, said air cushion comprising rubber lining G, and leather covering I, laced by cord K, and straps and buckles, substantially as and for the purpose hereinbefore set forth.

No. 47,346. Dental Tool. (*Outil dentaire.*)

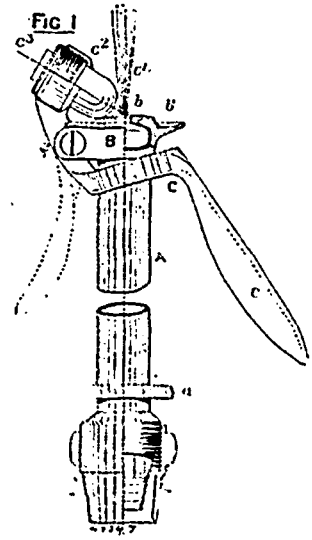
Edward Charles Moore, Detroit, Michigan, U.S.A., 27th October, 1894; 6 years.

Claim.—1st. In a dental-disc holder, the combination, with an apertured disc, of a mandrel having two or more spring-arms formed with seats on their outer faces arranged to correspond with the shape of the aperture in the disc, substantially as described. 2nd. The



combination, with a dental disc having a rigid hub, of a mandrel terminating in a spring chuck adapted to engage said hub to detachably secure the disc upon the mandrel, substantially as described. 3rd. The combination with a dental disc having a rigid apertured hub, of a mandrel terminating in an expanding spring chuck, the shoulder F, beveled upon both sides and the shoulder G, forming a step for the hub, substantially as described.

No. 47,347. Spray Producer. (*Pulvérisateur d'eau.*)



George Oulton, Liverpool, County Lancaster, England, 27th October 1894; 6 years.

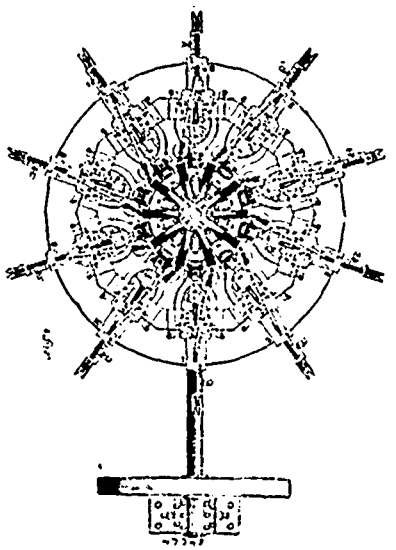
Claim.—1st. The combination of a tubular barrel formed with a contracted orifice a lever hinged to said barrel and bridling the same a finger plate formed at one end and an elastic block fixed to the other end of said lever, a shackle sliding on the barrel and adapted to be pushed over said finger plates when brought close to the lever, substantially as and for the purposes set forth. 2nd. A jet diffuser consisting of a tubular barrel having a contracted orifice at one end and a coupling at the other end, a lever hinged to said barrel and formed with a finger plate at one end and an elastic block fixed to the other end of said lever, a device for holding said finger plate close to said barrel, substantially as described and shown in the drawing. 3rd. The combination of a nozzle-piece, a lever hinged to said nozzle-piece and an elastic deflector fixed to said lever in such a manner that by the movements of the lever said deflector is first brought into contact with one edge of the orifice of said nozzle and gradually covers the same. 4th. An apparatus for producing spray and diffusing jets of liquid having an elastic movable deflector and an inelastic nozzle-face, substantially as and for the purpose hereinbefore set forth.

No. 47,348. Nail Machine. (*Machine à clou.*)

Robert Powell, Cleveland, Ohio, U.S.A., 27th October, 1894; 6 years.

Claim. 1st. In a nail or other like machine, the herein-described means for transmitting power, consisting of a vertically reciprocating main actuating member, and a symmetrical series of transmitting members radiating from and actuated by said central member, substantially as and for the purpose set forth. 2nd. In a nail or other like machine, as a means for transmitting power, the combination of the central reciprocating main actuating member and the series of reciprocating transmitting members projecting at an angle from the main member and having working connections

whereby they receive reciprocating movement therefrom, substantially as set forth. 3rd. In a nail or other like machine, as a means of transmitting power, the combination of a central main reciprocating wedge, and a series of transmitting members symmetrically

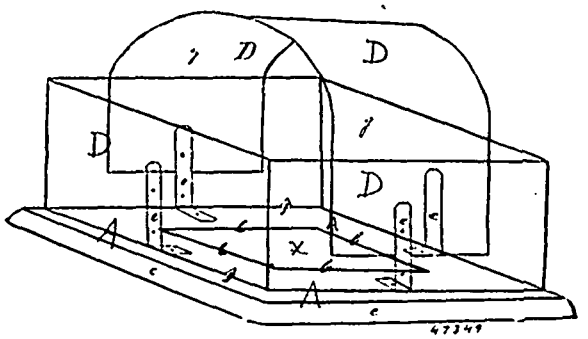


radiating from said central wedge and having connection therewith, whereby they are forced out and drawn inward radially as the central wedge reciprocates, substantially as and for the purpose set forth. 4th. In a nail or other like machine, the combination of a central reciprocating wedge and a symmetrical series of radiating transmitting members receiving reciprocatory movement from the main wedge, and having wedging faces for performing work in substantially the manner explained. 5th. In a nail or other like machine, the combination of a main central member having a number of circumferential flanged wedges and a series of transmitting members engaged at their inner ends by the flanged wedges on the main member and receiving reciprocating movement therefrom and having at their outer ends means for performing work, substantially as set forth. 6th. In a machine of substantially the character specified, the combination of a central actuating wedge and a series of forming mechanisms radiating from and actuated by said central wedge, substantially in the manner and for the purpose set forth. 7th. In a machine of substantially the character specified, the combination of a series of radially arranged and radially feeding forming mechanisms and the common central power operating thereon, substantially in the manner explained. 8th. A nail or other like machine consisting of a number of forming mechanisms, a motor common to all and means for disconnecting at will one or more of said mechanisms from the motor, substantially as set forth. 9th. A nail machine consisting of a number of radially arranged nail-forming mechanisms, a common actuating device and means for disconnecting one or more of said nail-forming mechanisms from the actuating device, substantially as set forth. 10th. A nail machine consisting of a centrally arranged reciprocating wedge and a symmetrical series of radiating nail mechanisms having actuating connection with said wedge as explained. 11th. In a nail machine, the combination of a main reciprocating wedge, a series of reciprocating transmitting wedges receiving motion from the main wedge, and nail-forming mechanisms operated by said transmitting wedges as explained. 12th. A multiplex nail machine constructed, substantially as herein described, of a series of complete nail-forming mechanisms, a vertically reciprocating wedge plunger, from which each complete nail-forming mechanism of the series radiates, and connecting mechanisms operated by said plunger whereby the various working elements of each nail-forming mechanism are actuated, substantially as set forth. 13th. The combination of a series of nail-forming mechanisms arranged radially around a common centre, the vertically moving central plunger 2, and the removable plunger shoes 2^{a} imparting radial movement to the operating parts from the vertical movement of the plunger, as explained. 14th. The combination of the vertically moving wedge plunger, the radially moving die operating frame, the header-block and the removable brasses or bearing plates, for taking the wear between the plunger wedges and the radially moving parts, as explained. 15th. The combination of the vertically moving wedge-plunger, the radially moving header-block, and the interposed wedge, for adjusting the stroke and taking up the wear of the header, as explained. 16th. The combination of the vertically moving wedge-plunger, the radially moving header-block, the header, the wedge and the adjusting screw 18, substantially as and for the purpose set forth. 17th. In a nail machine, the combination of a reciprocating frame carrying inclined flanges, and die-carrying blocks having grooves corresponding with the incline of flanges to receive the same, substantially as set forth. 18th. In a nail machine, the combination of a vertically reciprocating wedge plunger, a reciprocating frame operated thereby, the die-carrying blocks and dies having connection with said frame, substantially as set forth. 19th. In a nail machine, the combination of a reciprocating Y-shaped frame, means for reciprocating it from its stem end, the die-carrying blocks and dies, and means at the limbs of the frame provided with inclined portions for operating the dies, substantially as set forth. 20th. In a nail machine the combination of the reciprocating die-block having the inclined bearing face, and the wedging transmitting plunger engaging said face for forcing the block inward, one of said parts also having an inclined groove, and the other a flanged plate engaging said groove for drawing the block outward, substantially as set forth. 21st. In a nail machine, the combination of a reciprocating Y-shaped frame, means for reciprocating it from its stem end, plates fixed to the limbs of the frame and provided with inclined flanges, the dies, and the die-carrying blocks having grooves to receive said flanges and corresponding to their inclination, substantially as set forth. 22nd. In a nail machine, the combination of a reciprocating frame, the dies operated thereby, the reciprocating header block and header adapted to reciprocate with and having a slight relative movement to said frame, and means for reciprocating said devices, substantially as set forth. 23rd. In a nail machine, the combination of a reciprocating frame having a slot, the dies operated by the frame, a reciprocating header block and header, the former having a projection received by but shorter than said slot to permit relative movement of the header block, means for confining the reciprocating frame in its proper rectilinear movement and means for operating said devices, substantially as set forth. 24th. In a nail machine, having gripping, pointing and cutting devices, the combination of a reciprocating frame for operating the gripping, pointing and cutting devices, a header block and header movable relatively thereto, said frame and header block having inclined ends for forcing the frame and header outwardly, and means for drawing them inwardly, substantially as set forth. 25th. In a nail machine, having gripping pointing and cutting devices, the combination of a reciprocating frame for operating the gripping, pointing and cutting devices, header block and header movable relatively thereto, said frame having an end with an inclined and a vertical face, and said header block having an inclined end, means for engaging the inclined portions of said devices, and the vertical portion of said frame, whereby they are forced outwardly, and means for drawing them inwardly, substantially as set forth. 26th. In a nail machine, having gripping, pointing and cutting devices, the combination of a reciprocating frame for operating the gripping, pointing and cutting devices, and having an end with a portion inclined and a portion vertical, a header block having an inclined end and movable relatively to the frame, a header carried thereby, and a reciprocating plunger, having inclined and vertical portions on its exterior for engaging the corresponding portions of the frame and header block for forcing them outwardly, and means for drawing them inwardly, substantially as set forth. 27th. In a nail machine, having gripping, pointing and cutting devices, the combination of a reciprocating frame for operating the gripping, pointing and cutting devices, and having an end with inclined and vertical portions, a header block having an inclined end and movable relatively to the frame, a header carried thereby, and a reciprocating plunger provided with wings, the outer faces of which have inclined and vertical portions for engaging the reciprocating portions of the frame, and hammer-stocks for forcing them outwardly, and means for drawing them inwardly, substantially as set forth. 28th. In a nail machine having gripping, pointing and cutting devices, the combination of a reciprocating frame for opening the gripping, pointing and cutting devices, and having an end with inclined and vertical portions, a hammer stock having an inclined end and movable relatively to the frame, a header carried thereby, gripping lips of the hammer-stock projecting on each side of and beyond its inclined end, and a reciprocating plunger provided with T-wings, the outer faces of which have inclined and vertical portions for engaging the corresponding portions of the frame and header block and the inner sides of the flanges of the wings being engaged by the gripping lips of the hammer stock, substantially as and for the purpose set forth. 29th. In a nail machine, the combination of a header block carrying a header and provided with gripping lips, and a plunger provided with a T-wing having an inclined face, said header block having an inclined end engaged by the incline of the T-wing, being inclined and engaged by said gripping lips, substantially as and for the purposes set forth. 30th. The herein-described wedge-shaped plunger C, in combination with nail-forming mechanism, operated by said plunger, substantially as set forth. 31st. In a nail machine, the herein-described plunger provided with wings having faces extending from near one end of the plunger inwardly toward the other end, substantially as set forth. 32nd. In a nail machine, the herein-described plunger provided with T-wings with inclined faces and correspondingly inclined on the inner sides of the flanges of said wings, substantially as set forth. 33rd. In a nail machine, the combination of the bed plate, the nail-forming device, the transmitting wedge operating said forming device, and the bearing for said transmitting wedge, attached to the bed plate supporting the transmitting wedge laterally and adjustable to take up wear as explained. 34th. In a nail machine, the combination of the bed plate, the laterally reciprocating dies, the wedging Y-shaped frame for reciprocating the dies, and the lateral support for the Y-shaped frame, consisting of a wedge adjustably mounted on the bed plate as explained. 35th. In a nail machine, the combination, of a

header-block carrying a header, movable grips to said block provided with lips, means for moving said grips in and out, and a reciprocating plunger having flanges for engaging said lips when in their inner position and which are non-operative when the lips are in their outer position, substantially as and for the purpose set forth. 36th. In a nail machine, the combination of a hammer-stock carrying a header, grips movable relatively to said hammer-stock provided with lips for retracting the same when the parts are locked together, a reciprocating wedge plunger having flanges engaging the aforesaid lips for retracting the parts, and a lever fulcrumed in one member and connected by a link with the other so as to lock the parts together when they are to be moved in and out by the motion of the plunger, and to release the grips when the parts are to be rendered inoperative. 37th. A multiple nail machine constructed substantially as herein described, with a series of nail-forming mechanism radiating from a common centre, a vertically reciprocating wedge-plunger at said centre, each of said mechanisms having its own cutting, gripping and heading dies operated from said plunger, and an individual disconnecting mechanism for each of said nail-forming mechanisms, whereby anyone or all of them may be thrown out of action, substantially as set forth. 38th. A nail machine having a plunger, and upper and lower guides for said plunger, the upper guide being provided with radiating or spreading arms for holding it in position, substantially as set forth. 39th. In a nail machine, the combination of the reciprocating plunger, having the yoke on its lower end, the drive-shaft having a crank working in the yoke for reciprocating the plunger, and the bearing for said lower end of the plunger, consisting of the grooves on the machine frame, and the ribs on the yoke sliding in said grooves, substantially as and for the purpose explained. 40th. In a nail machine, the combination of the frame, the reciprocating plunger, having driving connections substantially as described, and the bearing for the end of said plunger, consisting of the grooves on the frame and the wedging ribs adjustably secured to said plunger and working in said grooves, for the purpose explained. 41st. In a nail machine, the combination of the plunger, the ribs having adjustable wedging tongue and groove connection with the plunger, and rounded bearing faces, and the bearing frame having rounded grooves in which said ribs slide, substantially as and for the purpose set forth. 42nd. In a nail machine, the combination of the vertically reciprocating plunger, the drive-shaft, and the connection between the plunger and shaft, consisting of the yoke on the end of the plunger, the journal-box sliding in the yoke and having wedging adjustment to take up wear therein, and the crank on the shaft working in said journal-box, substantially as explained. 43rd. In a nail machine, the combination of the driving crank-shaft, the vertically reciprocating plunger, the yoke in which the crank of said shaft works, having an opening for receiving the end of the plunger, the keys between the overlapped faces of the yoke and plunger, and recessed into each, and the transverse bolts for holding the parts together, as explained. 44th. The combination of the hammer-stock provided with a post or standard, the movable grips extending above the hammer-stock, a flanged wedge-shaped plunger for moving the combined hammer-stock and grips in and out by its reciprocating motion, the lever handle fulcrumed in the post, the links connecting the handle to the standards, and a bearing plate engaging with the post so as to lock the hammer-stock and grips together or release them at the will of the operator, as explained. 45th. The combination of the flanged wedged-shaped plunger, the hammer-stock having a post, the movable flanged grips extending above the hammer-stock and handle fulcrumed in the post, the links jointed to the handle and standards, the bearing plate mounted in the handle and the screw rod for setting up the bearing plate as required to take up slack and lost motion between the flanges of the plunger and side pieces as explained. 46th. In a machine of substantially the character specified, a reciprocating die, constructed to yield in the direction at an angle to the line of reciprocation, substantially as and for the purpose set forth. 47th. A nail machine constructed with the backwardly yielding cutting dies, substantially as described, and adapted to be restored automatically to normal position, when released, as set forth. 48th. In a nail machine, the combination of a pair of die blocks with cavities of greater horizontal width in the direction of the feed than the dies contained therein and a pair of dies mounted movably in said cavities, having cutting faces shearwise under the backward movement of the working ends of the dies, substantially as set forth. 49th. In a nail machine, the combination of a pair of die blocks, backwardly moving cutting dies mounted therein and springs thrusting the working ends of the dies forward in the direction of the feed, substantially as set forth. 50th. The combination of the die blocks, the dies mounted therein with limited play longitudinally to the rod, the springs tending to press the dies forward and screws regulating the pressure of the springs as explained. 51st. In a nail machine, the combination of a pair of die blocks, opposed dies mounted therein, means for forcing together the opposed dies and drawing them apart, and wedges interposed between the backs of the die and the die-blocks to regulate the projection or approximation of the dies and compensate for the wear of their faces as explained. 52nd. In a nail machine, a pair of die blocks, opposed dies mounted therein, means for forcing the opposed dies together and drawing them apart, wedges interposed between the backs of the dies and the die blocks to regulate the projection or approximation of the dies and compensate for the wear of their faces and screws for operating the said wedges, substantially as herein set forth. 53rd. The wire reel in combination with bearing brackets and skid levers fulcrumed on said brackets for lifting the reel into its bearings as explained. 54th. A nail machine constructed with a radial series of feeding and nail forming mechanisms and a concentric series of actuating devices consisting of vertical shafts, means for communicating simultaneous rotation thereto and an eccentric pin and rods on said shafts operating the feed mechanism, substantially as described. 55th. The combination of the gripping and heading dies arranged in an annular series, central mechanism for operating the same, the main driving shaft, the transmitting shaft, bevel-wheels connecting said shafts, the upper pinion on the transmitting and annular rack receiving motion from said upper pinion and an annular series of feed shafts receiving simultaneous rotation from said annular rack, as and for the purpose explained. 56th. The combination of the gripping and heading dies arranged in annular series, the central mechanism for operating them, the annular series of feed shafts, means for rotating the same, crank discs on said feed shafts, oscillating feed dogs and connecting rods between the crank discs and feed dogs, substantially as and for the purpose set forth. 57th. In a nail machine, the combination of the reciprocating feed, consisting of the lower plate, a co-operating rocking feed dog and a reciprocating connecting rod connected to said feed dog, whereby the feed grips in one direction and releases in the opposite direction, as explained. 58th. In a nail machine, the combination of the nail-forming mechanism, having means for actuating, a feed device having connection through the medium of a clutch actuating means, a switch for throwing the nail-forming mechanism out of operation, and connection between said switch and clutch whereby the feed is likewise stopped, as explained. 59th. In a nail machine, the combination of nail-forming mechanism, having means for actuating it and a switch controlling the connection with said actuating means, a feed actuated through the medium of a clutch having a spring pressed bolt for connecting the parts of a clutch, a movable dog for displacing said bolt, and a cam on the switch for engaging said dog, substantially as and for the purpose explained. 60th. The combination of the feed shaft, the fixed disc thereon, the loose crank disc, and the clutch device for connecting said discs, substantially as and for the purposes set forth. 61st. The combination of the radially arranged gripping and heading dies, central operating mechanisms, detaching device for throwing the several gripping and heading mechanisms out of gear, the feed discs, the clutch connecting said discs and connections for disconnecting said feed discs in the act of detaching the gripping dies, as explained. 62nd. The combination of the feed shaft, the feed disc, the radially adjustable wrist pin, and the screw mechanism for adjusting the same, substantially as set forth. 63rd. The combination of the feed shaft, the feed disc, the radially adjustable wrist pin, adjusting mechanism for said pin and the clamping device for fixing said pin in its adjusted position, as explained. 64th. The combination of the feed shaft 19, feed disc 25, connecting rod 33, feed dog 42, and ball joint 41 connecting said rod and dog and permitting their relative oscillating motion, as explained. 65th. The combination of the feed shaft 19, feed disc 25, connecting rod 33, feed dog 42, spherical head 41, spherical socket 40 and spherical faced nut 43 forming a universal joint between said connecting rod and feed dog, substantially as and for the purpose set forth. 66th. In a feed for nail machines, the combination of the sliding feed-blocks slotted as shown, the rocking dog mounted in the slot and the stops at the ends of said slot for limiting the rocking of the dog, as explained. 67th. In a feed for nail machines, the feed dog, having a gripping surface and trunnioned as described to cause said surface to grip the material to be fed, as explained. 68th. In a feed for nail machines the trunnioned dog, operating, substantially as described, and having the front and rear extensions for limiting its rocking on its trunnions, as explained. 69th. In combination with a nail machine, the feed consisting of the lower plate, and the upper oscillating feed dog co-operating with said plate and carrying the vertically adjustable gripping bar, for the purpose explained. 70th. In a feed for nail machines, the trunnioned feed dog, having a vertical socket, a gripping bar mounted in said socket, and a set screw for adjusting said gripping bar, substantially as and for the purpose explained. 71st. In a nail machine, the combination of the feed devices, and the adjacent nippers consisting of the fixed and movable jaws, the eccentric shaft and the connecting link between the movable jaw and said eccentric shaft, substantially as and for the purpose explained. 72nd. In a nail machine, the combination with the upper and lower tension or straightening rolls and the eccentric shaft for separating them, of the fixed and movable nipping jaws and the connecting link between the movable jaw and the eccentric shaft, substantially as and for the purpose explained. 73rd. In a nail machine, the combination of the feed and the casing and guiding roller supported in a frame having flaring jaws for guiding the wire into the roller, substantially as and for the purpose set forth. 74th. In a nail machine, die blocks each having thereon a gripping die, and also a pointing and cutting die, substantially as and for the purpose set forth. 75th. In a nail machine, die blocks provided with cutting dies movable thereon, and rocking bearings between the die and block, as explained. 76th. In a nail machine, the combination of a die block having a cavity, a cutting die loosely mounted in said cavity and a convex bearing seat for said die, as explained. 77th. In a nail machine, die blocks having cutting and pointing dies movably mounted thereon, the adjusting wedges for said dies and the convex blocks interposed between the wedges and dies, as explained. 78th. In a nail machine,

the combination of the die blocks, gripping dies on said blocks for holding the nail while it receives its head, cutting dies mounted in recesses in the blocks and cap-plates, having lugs also fitting in said recesses to hold the dies in place and receive impact of the hammer and sustain and strengthen the die block, as explained. 79th. In a nail machine, the combination of the oppositely reciprocating gripping and cutting dies, and an expeller consisting of a projecting arm having a notched end located in the line of the feed, and holding the nail and preventing it from sticking in either of the dies as they recede from the centre and allowing the nail to drop out of the way, as explained. 80th. A nail machine, and the various parts thereof, when constructed, substantially as described in the specification and shown in the drawing.

No. 47,349. Chimney Cap. (*Capuchon de cheminée.*)



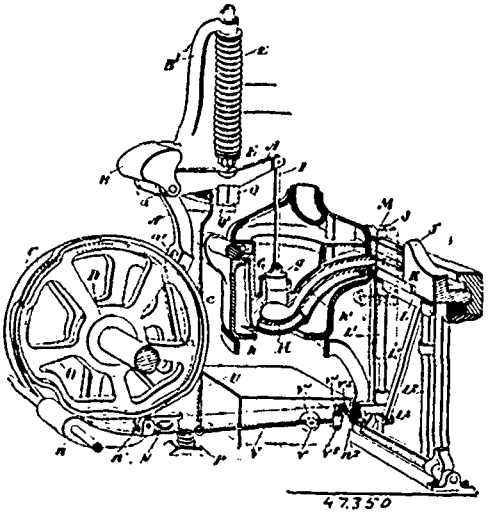
Alexander McLeod, Truro, Nova Scotia, Canada, 27th October, 1894; 6 years.

Claim.—1st. The combination of the iron casting A, and chimney, substantially as and for the purpose hereinbefore set forth. 2nd. The combination with the iron casting A, of the iron crown and spark extinguisher D, substantially as and for the purpose hereinbefore set forth.

No. 47,350. Automatic Plunger Stop for Linotype Machines. (*Arrêt automatique de piston plongeur pour machines linotypes*)

Arthur James Phillips, Louis Peter Bowvier and John Poole, all of Toronto, Ontario, Canada, 30th October, 1894; 6 years.

Claim.—1st. The combination with the pump lever connected to and operating the pump in the pot as specified, of a bolt, and means whereby it is brought beneath the pump lever when there is a lack of matrices to form a complete line of type, as and for the purpose specified. 2nd. The combination with the pump lever pivoted as specified, of the bolt Q, having a pin R, extending through the slot q, in the socket Q^1, the spring R^2, connecting the pins R, and R^1, and means whereby the pin is released so as to shoot the bolt and strike the bell when the short line of type is set up, as and for the purpose specified. 3rd. The combination with the pump lever connected to and operating the pump in the pot as specified, of the bolt Q, fitting within the socket Q^1, which has a slot q, made in the side of it, the pin R, extending from the bolt through the slot, the bell



crank S, pivoted at s, and the jaw s^1, to fit over the pin R, and having a pin s^2, the bell crank T, pivoted at s, the spring R^2, connected at each end to the pins R and R^1, and the rod U, and means whereby such rod is connected to the shafts operating the justification slide and band driver so as to operate the bolt upon an insufficiency of matrices in the line of type, as and for the purpose specified. 4th. The combination with the pump lever connected to and operating the pump in the pot as specified, of the bolt Q, fitting within the socket Q^1, which has a slot q, made in the side of it, the pin R, extending from the bolt through the slot, the bell crank S, pivoted at s, and having the jaw s^1, to fit over the pin R, and having a pin s^2, the bell crank T, pivoted at s, the spring R^2, connected at each end to the pins R, and R^1, and the rod U, lever V, with laterally extending pin v^3, the cam and spring operated lever N, having a screw n^2, the shafts L^1, L^2, and justification slide and band driver K, as and for the purpose specified. 5th. The combination with the pump lever connected to and operating the pump in the pot as specified, of the bolt Q, fitting within the socket Q^1, which has a slot q, made in the side of it, the pin R, extending from the bolt through the slot, the bell crank S, pivoted at s, and having the jaw s^1, to fit over the pin R, and having a pin s^2, the bell crank T, pivoted at s, the spring R^2, connected at each end to the pins R, and R^1, and the rod U, lever V, provided with a thimble V^1, bolt v^1, with adjusting nuts v^2, and laterally extending pin v^3, in the head and the screw bolt n^2, extending through the cam and spring operated lever N, by which the band driver K, is operated as and for the purpose specified.

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

3665. JOHN ALEXANDER LOUGH, 2nd five years of Patent No. 32,486, from the 11th day of October, 1894. Improvements in Belt Gearing, 4th day of October, 1894.

3666. WALTER McFARLANE, 2nd five years of Patent No. 32,785, from the 9th of November, 1894. Cant Dogs, 6th October, 1894.

3667. JAMES ELLIOTT, 2nd five years of Patent No. 32,477, from the 11th day of October, 1894. Grate Bars, 6th day of October, 1894.

3668. THE CANADIAN GENERAL ELECTRIC COMPANY OF TORONTO (assignee), 2nd five years of Patent No. 32,469, from the 8th day of October, 1894. Alternating Current Electric Motor, 8th October, 1894.

3669. THE CANADIAN GENERAL ELECTRIC COMPANY OF TORONTO, 2nd term of five years of Patent No. 32,470, from the 8th of October, 1894. Alternating Current Electric Motor, 8th day of October, 1894.

3670. EDWARD MURBY, 2nd term of five years of Patent No. 32,977, from the 2nd day of December, 1894. Knitting Machine, 8th October, 1894.

3671. EDWARD MURBY, 2nd term of five years of Patent No. 32,978, from the 2nd day of December, 1894. Looping Attachment for Knitting Machines, 8th October, 1894.

3672. JAMES A. HINSON, 2nd term of five years of No. 32,487, from the 11th day of October, 1894. Automatic Car Couplers, 9th October, 1894.

3673. JOHN HOWARD TENNYSON, 2nd and 3rd terms of six years of No. 44,475, from the 14th day of October, 1894. *Auxiliary Cut-off for Engines, 11th* October, 1894.

3674. VINCENT A. COLEMAN, 2nd five years of No. 32,507, from the 14th day of October, 1889. Trace Buckles, 15th October, 1894.

3675. JOSEPH EDWIN WHITING, 2nd term of five years of No. 32,603, from the 24th day of October, 1889. Saw Sets, 15th day of October, 1894.

3676. HENRY GIVEN HAGEY, 2nd five years of Patent No. *33,150, from the 16th December, 1884. Heating* Stove, 15th October, 1884.

3677. JUNIUS A. BOWDEN, 2nd term of five years of Patent No. 32,511, from the 15th day of October, 1894. Improvement on Filters, 15th October, 1894.

3678. LOUIS JACKSON HARRIS, 2nd five years of No. 32,540, from the 18th day of October, 1894. Railway Car or Coach, 16th October, 1894.

3679. ROBERT W. MATHERS, and ALVA H. BREWER, *2nd five years of No. 32,783, from the 9th day of* November, 1894. Buckets for Chain Pumps, 17th October, 1894.

3680. THE SERVICE RAILROAD TIE PLATE COMPANY, 3rd five years of No. 20,566, from the 12th day of November, 1894. Wear Plates for Railroad Ties, 17th October, 1894.

3681. WILFRED C. LYMAN, 3rd five years of No. 20,554, from the 12th day of November, 1894. Improvements in Condensing Heads for the Exhaust Pipe of *Non-Condensing Engines, 17th October, 1894.*

3682. GEORGE HENRY TAYLOR, 2nd five years of No. 32,579, from the 24th day of October, 1894. Self-contained Gas fired Steam Generator, 18th October, 1894.

3683. CHARLES LANGDON DAVIES, 2nd five years of No. 32,659, from the 29th day of October, 1894. Rythemic Generation of Electric Currents, 22nd October, 1894.

3684. OTIS BROTHERS AND COMPANY, 3rd five years of No. 32,858, from the 16th day of November, 1894. Electrically Controlled Elevator, 22nd October, 1894.

3685. ALEXANDER PEEL, 3rd five years of No. 20,594, from the 18th day of November, 1894. Improvements in Brick Making Machines, 22nd October, 1894.

3686. THOMAS J. McBRIDE, 2nd five years of No. 32,562, from the 21st day of October, 1894. Straw-burning Stove, 22nd October, 1894.

3987. THOMAS J. McBRIDE, 2nd five years of No. 32,563, from the 21st day of October, 1894. Straw-burning Stove, 22nd October, 1894.

3688. THOMAS J. McBRIDE, 2nd five years of No. 32,564, from the 21st day of October, 1894. Straw-burning Cooking Stove, 22nd October, 1894.

3689. *THOMAS J. McBRIDE, 2nd five years of No. 32,618,* from the 26th day of October, 1894. Straw-burning Cooking Stove, 22nd October, 1894.

3690. JOHN FOSTER & CO., (assignee), 2nd five years, of No. 32,669, from the 2nd day of November, 1894. Scallop Turners, 23rd November, 1894.

3691. JOSEPH MONROE BROHARD, 2nd five years of No. 32,604, from the 24th day of October, 1894. Door Check and Holder, 23rd October, 1894.

3692. JAY SPENCER CORBIE, 2nd five years of No. 38,872, a re-issue of No. 32,665, from the 2nd day of November, 1894. Disc Harrow, 25th October, 1894.

3693. WILLIAM BELLINGHAM, 2nd five years of No. 32,627, from the 28th day of October, 1894. Car Spring, 29th October, 1894.

3694. EDMUND WHITING WOODRUFF, 2nd five years of No. 32,837, from the 15th day November, 1894. *Document and Letter Fyle and Holder, 29th* October, 1894.

3695. WILLIAM H. SMITH, 2nd five years of No. 32,641, from the 28th day of October, 1894. Shoe Lacing Hook, 29th October, 1894.

3696. WILLIAM H. SMITH, 2nd five years of No. 32,642, from the 28th day of October, 1894. Shoe Lacing Hook, 29th October, 1894.

3697. *GUILLAUME BOIVIN, 3rd five years of No. 20,607, from* the 21st day of November, 1894. Shoe, 21st October, 1894.

3698. THE ELECTRIC STORAGE BATTERY COMPANY, 2nd and 3rd five years of No. 33,153, from the 6th day of December, 1894. Secondary or Storage Battery, 29th October, 1894.

3699. EDWARD WILKES RATHBUN, 2nd five years of No. 33,292, from the 2nd day of January, 1890. Manufacture of Portland Cement, 31st October, 1894.

3700. EDWARD WILKES RATHBUN, 2nd five years of No. 35,154, from the 6th day of October, 1890. Manufacture of Portland Cement, 31st October, 1894.

TRADE-MARKS

Registered during the month of October, 1894, at the Department of Agriculture—Copyright and Trade-Mark Branch.

5062. LA COMPAGNIE D'APPROVISIONNEMENTS ALIMENTAIRES DE MONTRÉAL, LIMITÉE, Montréal, Qué., Cigarettes françaises, 1er octobre 1894.

5063. } WAKELEE & COMPANY, of San Francisco, California, U.S.A., Cos-
5064. } metics, 1st October, 1894. Assigned to CHARLES WELLS
5065. } RANDALL, of same place.

5066. JAMES P. CAMPBELL, of Bridgeport, Connecticut, U.S.A. Medicinal Lotions, 1st October, 1894.

5067. THE ANGLO-BRITISH COLUMBIA PACKING COMPANY, LIMITED, of Vancouver, B.C. Canned Salmon, 2nd October, 1894.

5068. W. S. BRYERS BARKWELL, of London, Ont. A Medicine, 5th October, 1894.

5069. JOHN CARNRICK, of New York, N.Y., U.S.A. Pharmaceutical Preparation being a remedy for dyspepsia and indigestion, 6th October, 1894.

5070. ARCHIBALD WAYNE DINGMAN, of Toronto, Ont. Laundry Soap, 11th October, 1894.

5071. THE BRAINERD & ARMSTRONG COMPANY, of New London, Connecticut, U.S.A. Thread, Cord and Twist of Silk, Cotton, Wool, Worsted, and other fibre for embroidery, knitting, sewing and other purposes, 13th October, 1894.

5072. HENRY SWAIN & SON, of Montreal, Que. Cigarettes and Tobaccos, 19th October, 1894.

5073. B. GOLDSTEIN & CO., of Montreal, Que. Cigarettes and Tobaccos, 20th October, 1894.

5074. } DE QUERHOËNT & CIE., du Havre, Seine Inférieure, France, (COM-
5075. } PAGNIE DES ANTILLES) Rhum, 22 octobre, 1894.

5076. McVITIE & PRICE, of St. Andrew's Biscuit Works, Gorgie, Edinburgh, Scotland. Bread, Biscuits, Cakes, Confectionery and Flour, 23rd October, 1894.

5077. THOMAS LEEMING & CO., of Montreal, Que. General Trade Mark, 24th October, 1894.

5078. GERHARD MENNEN, of Newark, New Jersey, U.S.A. Toilet Powder, 25th October, 1894.

5079. WARRE & CO., of Oporto, Portugal. Port Wine, 25th October, 1894.

5080. THOMAS K. TAYLOR, of Toronto, Ont., trading as the COPLAND BREWING CO. Beer, 26th October, 1894.

5081. } LEVER BROTHERS, LD., of Port Sunlight, near Birkenhead, Chester,
5082. } England. All kinds of disinfectant soap, medicated soap, silversmith's soap, candles, common soap, detergents, matches, starch, blue and other preparations for laundry purposes, also perfumed soap perfumery and other toilet preparations, 26th October, 1894.

5083. HENRY J. JOSEPH of Montreal, Que., trading as THE MONTREAL SILK MILLS CO., LD. Men's, women's and children's knitted or woven underwear, and hosiery of all kinds, made in pure wool, silk, silk and wool, or other combinations of yarns, 27th October, 1894.

COPYRIGHTS

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7594. A LOST IDEAL, by Annie S. Swan. William Briggs, (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont., 1st October, 1894.

7595. AIRLIE'S MISSION, by Annie S. Swan. Wm. Briggs, &c. (*ut supra*).

7596. INSURANCE PLANS, of Berlin, Harriston, Listowel, Owen Sound and Sarnia, in Ontario; Ancienne Lorette, Beleil, Eastman, L'Epiphanie, Montmagny, Pierreville, Pierreville Mills, Ste. Anne de la Pérade, St. Chrysostome, St. Eustache, St. François de Beauce, St. Jacques L'Achigan, St. George de Beauce, St. Joseph de Beauce, St. Lin, Ste. Marie de Beauce, Somerset, Stanfold, Varennes, Verchères, Yamachiche, Yamaska and Warwick, in Quebec. Chas. E. Goad, Montreal, Que., 2nd October, 1894.

7597. FAITHFUL SIR JOHN. Words by M. P. Card. Music by Frank W. Deane. A. & S. Nordheimer, Toronto, Ont., 8th October, 1894.

7598. SUN OF MY SOUL, THOU SAVIOUR DEAR. Sacred Song. Music by Angelo M. Read, Op. 2, No. II. The Anglo-Canadian Music Publishers' Association, Ld., London, England, 9th October, 1894.

7599. POLÉMIQUE À PROPOS D'ENSEIGNEMENT entre M. J. P. Tardivel, Directeur de "La Verité" et M. C. J. Magnan, Professeur à l'Ecole Normale Laval, &c. C. J. Magnan, Québec, 10 octobre 1894.

7600. VIE DE CATHERINE TEKAKWITHA, VIERGE IROQUOISE, par le Rév. Père Burtin, O.M.I., Québec, 10 octobre 1894.

7601. GOOD BYE, SWEET DAY. Waltz. Music by Kate Vannah. Adapted by Julian Lavery. The Anglo-Canadian Music Publishers' Association, Ld., London, England, 12th October, 1894.

7602. DIGEST OF THE ONTARIO GAME AND FISHING LAWS. Second Edition. By A. H. O'Brien, M. A., Toronto, Ont., 15th October, 1894.

7603. THE MEN OF THE NORTHERN ZONE. Words by R. K. Kernaghan. Music by Robin Kyle. Whaley, Royce & Co., Toronto, Ont., 15th October, 1894.

7604. THE DE BRISAY ANALYTICAL LATIN METHOD. PART I. By C. T. DeBrisay, B. A., Toronto, Ont., 16th October, 1894.

7605. HUTTEMEYER'S BUSINESS DIRECTORY OF THE CITIES OF MONTREAL, TORONTO, OTTAWA, QUEBEC, 1894-5. George C, Huttemeyer, Montreal, Que., 16th October, 1894.

7606. CALLIRHOË. 4e Air de Ballet pour Piano, par C. Chaminade. The Anglo-Canadian Music Publishers' Association, Ld., London, England, 17th October, 1894.

7607. CANADA FOREVER. Words and Music by Alexander Muir, B.A. Whaley, Royce & Co., Toronto, Ont., 19th October, 1894.

7608. CANADA'S HOME RECORD AND REGISTER. The Wells and Richardson Co., Montreal, Que., 20th October, 1894.

7609. COMMON SCHOOL ARITHMETIC. PARTS ONE, TWO AND THREE. Progressive School Series, by W. T. Kennedy, and Peter O'Hearn. Thomas Cassels Allen, Halifax, N.S., 22nd October, 1894.

7610. PLAN OF THE CITY OF WINDSOR AND VICINITY. George McPhillips, Windsor, Ont., 22nd October, 1894.

7611. LE CODE DU POKER. Règles, Principes et Décisions. Lionel Dansereau, Montréal, Qué., 23 octobre 1894.

7612. CANADA. A Portfolio of Original Photographic Views of Our Country. Volume I, Number 9. Art Publishing Co., Toronto, Ont., 27th October, 1894.

7613. CANADA. A Portfolio of Original Photographic Views of Our Country. Volume I, Number 10. Art Publishing Co., Toronto, Ont., 27th October, 1894.

7614. RULES OF THE BEAVER MUTUAL CO-OPERATIVE BUILDING SOCIETY. Wm. J. Palmer, Montreal, Que., 27th October, 1894.

7615. COMPOSITION FROM MODELS, by W. J. Alexander, Ph. D. and M. F. Libby, B.A. The Copp, Clark Co., Ld., Toronto, Ont., 29th October, 1894.

7616. THE BELL TELEPHONE COMPANY OF CANADA, LIMITED, EASTERN EXCHANGES, SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, NOVEMBER, 1894. The Bell Telephone, Company of Canada, Ld., Montreal, Que., 30th October, 1894.

7617. THE BROWNIES' PARADE. Two Step (March), by L. Fred. Clarry. The Anglo-Canadian Music Publishers' Association, Ld., London, England, 30th October, 1894.

7618. HOUNDS AND HARES. (Parlour Game.) Thomas M. Keller, Hamilton, Ont., 31st October, 1894.

7619. MY LATTICE AND OTHER POEMS, by Frederick George Scott. Wm. Briggs (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont., 31st October, 1894.

7620. DRY GOODS MEASURING TABLE. C. J. W. Davies, Montreal, Que. 31st October, 1894.

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