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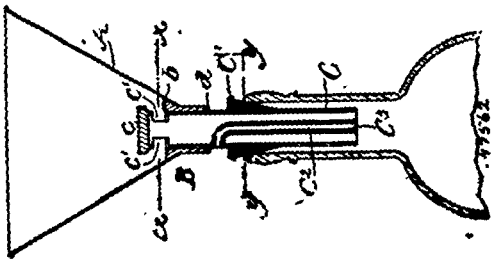
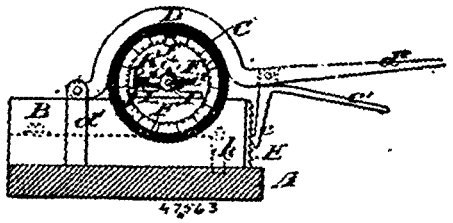
No. 47,562. Tunnel. (*Entonnoir.*)



James Jordon Ebert, and Max Loewenstein, both of New York State of New York, U.S.A., 1st December, 1894; 6 years.

Claim.—1st. The combination, in a funnel, of a tubular stem having fluid inlet at its upper part, and a bowl or body adapted to slide on the stem, and thereby close and open the inlet, substantially as shown and described. 2nd. The combination, in a funnel, of a tubular stem having fluid inlet at its upper part, stops above and below the inlet, and a bowl or body adapted to slide on the stem between its stops, and thereby close and open the inlet, substantially as shown and described. 3rd. The combination, in a funnel, of a tubular stem having fluid inlet and a valve at its upper part, and a bowl or body adapted to slide on the stem and to close and open said inlet, and also having a seat to which the stem valve is adapted, substantially as shown and described. 4th. The combination, in a funnel, of a tubular stem having fluid inlet and a valve at its upper part, and a stop below the inlet, and a bowl or body adapted to slide on the stem, and to the lower stop, and having a seat forming a stop to which the stem valve is adapted, substantially as shown and described. 5th. The combination, in a funnel, of a tubular stem having fluid inlet at its upper part, and a packing collar below said inlet adapted to the neck of a bottle, and a bowl or body adapted to slide on the stem, and thereby close and open the inlet, substantially as shown and described. 6th. The combination, in a funnel, of a tubular stem having fluid inlet at its upper part, and provided with an interior vent tube, and a bowl or body adapted to slide on the stem, and thereby close and open the inlet substantially as shown and described. 7th. The combination, in a funnel, of a tubular stem having fluid inlet at its upper part, a packing below said inlet adapted to the neck of a bottle, and an interior vent tube, and a bowl or body adapted to slide on the stem, and thereby close and open the inlet, substantially as shown and described. 8th. The combination, in a funnel, of a tubular stem having fluid inlet at its upper part and provided with an interior vent tube which extends above the inlet within the funnel bowl or body, said bowl adapted to slide on the stem, and thereby close and open the inlet, substantially as shown and described. 9th. The combination, in a funnel, of a tubular stem having fluid inlet at its upper part and provided with a vertically adjustable interior vent tube, and a bowl or body adapted to slide on the stem, and thereby close and open the inlet, substantially as shown and described. 10th. The combination, in a funnel, of a tubular stem C, having a stop *d*, a closed top *c*, fluid inlet at its upper part, a vent tube C^2, opening through the side of the stem below the stop, a packing C^1, on the stem, and a bowl or body A, movable on the stem and adapted to close and open the inlet, substantially as shown and described. 11th. The combination, in a funnel, of a tubular stem having a valve *c*, and fluid inlet at its upper part, and an exterior packing C^1, below said inlet, a bowl or body A, adapted to slide on said stem, and thereby close and open the inlet and a vertically adjustable vent tube C^2, fitted within the stem and extending upward within the funnel body, substantially as shown and described.

No. 47,563. Machine for Setting Up, Crozing and Chining Barrels. (*Machine pour monter, jabler et faire les rainures pour fonds de barriques.*)

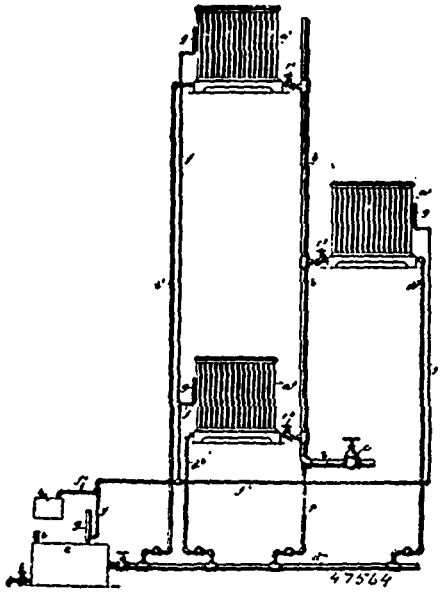


Frank Salisbury Palmatier, Leeds, and Frederick Walter Palmatier, Catskill, both in New York, U.S.A., 1st December, 1894; 6 years.

Claim.—1st. In a machine for setting-up, crozing and chining barrels, a bed-plate, a block thereon having a semi-cylindrical recess therein, a band, the ends of which are normally some distance apart, secured within the recess, and a lever pivoted to the block, the said lever having a semi-cylindrical recess engaging the ends of the band and drawing them together as the lever is depressed for the purpose of gathering the staves of a barrel together, substantially as set forth. 2nd. In a machine for setting-up, crozing and chining barrels, a bed-plate, a block therein, having a semi-cylindrical recess therein, a band, the ends of which are normally some distance apart, secured within the recess, a lever pivoted to the block, said lever having a semi-cylindrical recess engaging the ends of the band for drawing them together as the lever is depressed, and an adjustable hoop within the barrel for holding the staves loosely assembled before the lever is depressed, substantially as set forth. 3rd. In a machine for setting-up, crozing and chining barrels, a bed-plate, blocks thereon having semi-cylindrical recesses therein, bands secured within the recesses in the blocks and having their ends normally some distance apart, levers pivoted to the blocks, said levers having semi-cylindrical recesses engaging the ends of the bands for drawing them together as the levers are depressed, a block pivoted to the bed-plate in position to swing the croze and chine-cutting mechanism into engagement with the end of the barrel after the levers have been

depressed and the staves assembled, a shaft mounted to rotate in said block, a socket-piece adjustable longitudinally upon the shaft, croze and chine-cutters having a limited sliding movement in the socket piece toward and away from the interior of the barrel, a spring tending to hold the croze and chine-cutters at the limit of their outward movement, and means for operating the croze and chine-cutters, substantially as set forth.

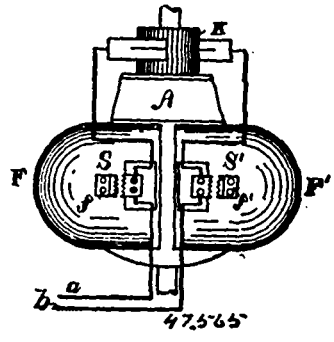
No. 47,564. Method of Heating. (*Méthode de chauffage.*)



William P. Skiffington, New York, State of New York, and Andrew G. Paul, Boston, Massachusetts, U.S.A., 1st December, 1894; 6 years.

Claim.—1st. The method of heating which consists in supplying steam in measured quantities at or below atmospheric pressure and causing the flow of said steam to the place of use by reducing the pressure thereat. 2nd. The method of heating which consists in supplying steam in measured quantities at or below atmospheric pressure, and causing the flow of said steam to the place of use by exhausting the air therefrom, and causing the steam to condense thereat and conducting away the water of condensation, substantially as before set forth. 3rd. The combination with a steam heating system which is provided with an air exhauster and with the usual supply pipe for steam, of a measuring device situated in the said supply pipe, substantially as before set forth. 4th. The combination with a steam heating system which is provided with an air pipe in addition to the supply and return pipe or pipes and with an exhauster for drawing air from the system through the said air pipe and with the usual supply pipe, of a measuring device situated in the said supply pipe, substantially as before set forth. 5th. The combination with a steam heating system, which is provided with an air pipe in addition to the supply and return pipes, and with an exhauster for drawing air from the system through the said air pipe, and with the usual supply pipe, of a measuring device situated in the said supply pipe, and a sealed escape pipe for the water of condensation, substantially as before set forth. 6th. In combination with a heating system, a supply pipe provided with a reducing valve, an air pipe in addition to the supply and return pipe connecting in said system, an exhauster for drawing the air from the system through the said air pipe, and a sealed escape pipe for the water of condensation, substantially as shown and described. 7th. In combination with a heating system containing a number of radiators or heaters, a main supply pipe, branch pipes connecting the main supply pipe with the several radiators or heaters, a reducing valve in each branch pipe for separately controlling each radiator or heater, an air pipe in addition to the supply and return pipes connecting with each of the said radiators or heaters, an exhauster for drawing the air from the said radiators or heaters through the said air pipe, and sealed escape pipes for the water of condensation, substantially as before set forth. 8th. In combination with a heating system containing a number of radiators or heaters, a main supply pipe provided with a reducing valve and branch pipes connecting the main supply pipe with the several radiators or heaters, a reducing valve in each branch pipe for separately controlling each radiator or heater, an air pipe in addition to the supply and return pipes connecting with each of the said radiators or heaters, an exhauster for drawing the air from the said radiators or heaters through the said air pipe, and sealed escape pipes for the water of condensation, substantially as shown and described. 9th. In combination with a heating system containing a number of radiators or heaters, a supply pipe provided with a reducing valve, the supply pipe being connected by branches with each of the radiators or heaters, an air pipe in addition to the supply and return pipes connected by suitable branches with each of the radiators or heaters and provided at each radiator or heater with an automatic valve for preventing the escape of the heating agent, an exhauster for drawing air from the system through the said air pipe, and sealed escape pipes for the water of condensation, substantially as shown and described. 10th. In combination with a heating system containing a number of radiators or heaters, a supply pipe provided with a reducing valve and connected with the said radiators or heaters, an air pipe in addition to the supply and return pipes connected by suitable branches with each of the radiators or heaters, and also connected with the tank for collecting the water of condensation, each of the branches of the air pipe being provided with an automatic valve near each radiator or heater and near the said tank, an exhauster for drawing air from said radiators or heaters and the said tank through the said air pipe, sealed escape pipes for permitting the passage of the water of condensation to the said tank, a check valve in each of the said escape or return pipes, substantially as shown and described. 11th. In combination with a heating system, a supply pipe provided with a reducing valve, an air pipe in addition to the supply and return pipes connected with the heater or radiator at a suitable place above the point where the water of condensation collects, an exhauster for drawing air from the system through the said air pipe, and a sealed escape pipe for the water of condensation, substantially as shown and described. 12th. In combination with a heating system, a supply pipe provided with a reducing valve, a sealed tank for the water of condensation, an air pipe connected with said tank, an exhauster for drawing air from the system through the said air pipe, and a sealed escape pipe for the water of condensation, substantially as shown and described.

No. 47,565. Lightning Discharge Protector for Electric Apparatus. (*Paratonnerre pour appareil électrique.*)



The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Elihu Thomson, Swampscott, Massachusetts, U.S.A., 1st December, 1894; 6 years.

Claim.—1st. The combination with a line circuit and a dynamo electric machine or motor, having its windings or coils connected thereto and its core or body portion insulated therefrom, of a connection including a spark gap between such line and core, such spark gap being placed in the magnetic field of the motor or dynamo electric machine. 2nd. The combination with a line circuit, of a dynamo electric machine, having its coils connected therewith, and its core insulated therefrom, of a connection between said line and core, a pair of separable spark plates included in said connection and located in the free magnetic field of the machine, and an electro-magnet responding to a discharge through said connection, and operating to separate said plates, substantially as described.

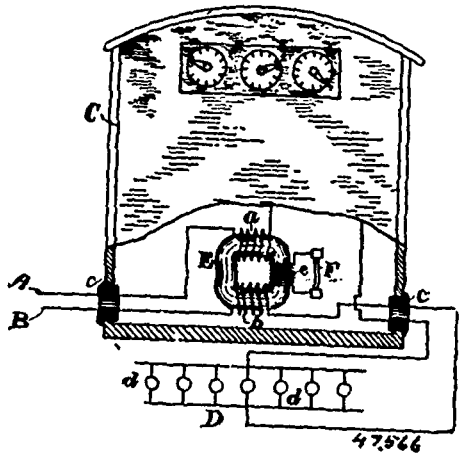
No. 47,566. Detector for Electric Current Meters.

(*Avertisseur pour compteur de courant électrique.*)

The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Elihu Thomson, Swampscott, Massachusetts, U.S.A., 1st December, 1894; 6 years.

Claim.—1st. An electric current meter provided with an electro-magnetic device controlled by the main line current and adapted to operate when the meter is shunted, substantially as set forth. 2nd. An electric current meter provided with an electro-magnetic device controlled by the main line current and in series with the meter and adapted to respond to an attempt to shunt the meter, substantially as set forth. 3rd. An electric current meter provided with a detector comprising a magnetizable core on which the line wires are wound in reverse coils, and a device responsive to any disturbance of the balance between said coils, substantially as set forth. 4th. An electric current meter provided with a detector comprising a magnetizable core on which the line wires are wound in reverse coils, and a circuit controlling device responsive to any disturbance of the balance between said coils, substantially as described. 5th. An

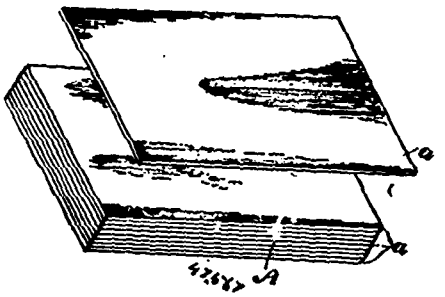
electric current meter provided with a magnetizable core on which the line wires are wound in reverse coils, and a device controlling



the line circuit and responsive to any disturbance in the balance between said coils, substantially as described.

No. 47,567. Insulating Composition.

(*Composition isolante.*)

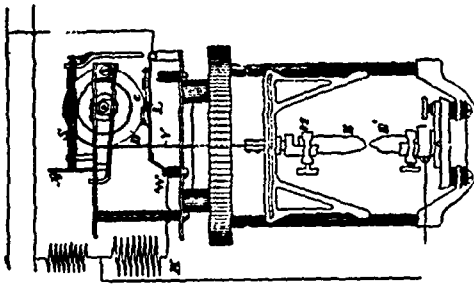


The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Elihu Thomson, Swampscott, Massachusetts, U.S.A., 1st December, 1894; 6 years.

Claim.—1st. The process of making insulating material which consists in applying non-carbonaceous material to sheets of paper, piling said sheets together, and drying the resulting mass. 2nd. The process of making insulating material which consists in applying silicious or equivalent material to sheets of paper, piling said sheets together, and drying and baking the resulting mass so as to consolidate the same. 3rd. The process of making insulating material which consists in applying to paper sheets an earthy or mineral substance with a binding material, piling said sheets together and drying and heating the resulting mass. 4th. As a new article of manufacture, an insulating material consisting of layers of carbonaceous material alternating with layers of silicious material. 5th. As a new article of manufacture, an insulating material consisting of layers of more or less carbonized paper and intervening layers of more or less vitrified silicious material.

No. 47,568. Safety Device for Electric Arc Lamps.

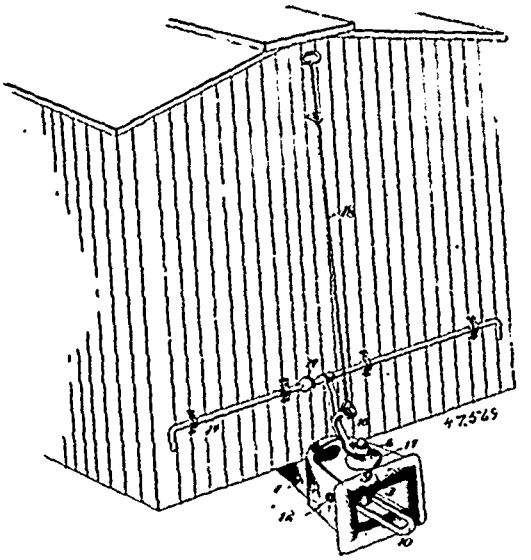
(*Appareil de sûreté pour lampes électriques à arc.*)



The Canadian General Electric Company, Toronto, Ontario, Canada, assignee of Elihu Thomson, Swampscott, Massachusetts, U.S.A., 1st December, 1894; 6 years.

Claim.—1st. The combination with the rotary support for the carbon holder, having a depression, of a circuit controller engaging with such support, and means for impelling the engaging part of such controller into said depression. 2nd. In an arc lamp, the combination with the carbon holder, of a rotary support therefor having a depression, containing on one side an inclined surface, and a circuit controller having a projection engaging with said depression, substantially as described. 3rd. In an arc lamp, the combination with the carbon holder, of a rotary support therefor having a depression containing an inclined surface leading off to one side, and a circuit controller having a projection engaging with said depression, substantially as described. 4th. In an arc lamp, the combination with the carbon holder, of a spring-actuated drum, a ribbon wound on the drum and attached to the carbon holder, and a circuit closer adapted to be operated by said drum, substantially as described. 5th. In an arc lamp, the combination with the carbon holder, of a rotary support therefor, and a circuit controller adapted to be operated by said rotary support, substantially as described.

No. 47,569. Car Coupler. (*Attelage de chars.*)



John S. Heaton, Edward R. Willson, Augustine M. Webber, William A. McGrath and Moses L. S. Bunckener, all of Shelbyville, Kentucky, U.S.A., 1st December, 1894; 6 years.

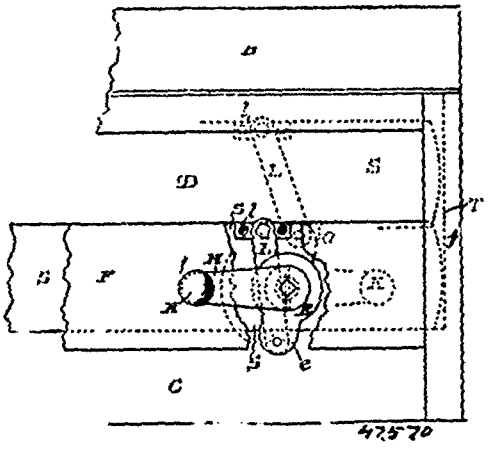
Claim.—1st. In a car-coupling, the combination of a draw-head having a coupling-pin perforation and provided with a horizontal way intersecting the coupling-pin perforation and having a recess at the outer terminus of the way, a pin-supporting plate arranged in said way and adapted to project into the coupling-pin perforation to hold a coupling-pin elevated, and a swinging plate hingedly mounted in the draw-head and provided at its top with an upward extending pin the loop arranged in said recess and hingedly connected with the pin-supporting plate, substantially as described. 2nd. In a car-coupling, the combination with a draw-head and a coupling-pin, of a rock shaft designed to be mounted on a car and provided with an outward extending arm having its outer end bifurcated, said bifurcation tapering toward its inner end, whereby the coupling-pin is clamped, substantially as described. 3rd. In a car-coupling, the combination of a car, a draw-head and a coupling-pin, of a rock-shaft arranged transversely of the car and journalled thereon and provided with an outward extending arm connected with the coupling-pin, an eccentric mounted on the rock-shaft and arranged to engage frictionally and to bind the car whereby the coupling-pin is held elevated, substantially as and for the purpose described.

No. 47,570. Heat Regulator. (*Régulateur de chaleur.*)

The Consolidated Car Heating Company, assignee of James F. McElroy, both of Albany, New York, U.S.A., 3rd December, 1894; 6 years.

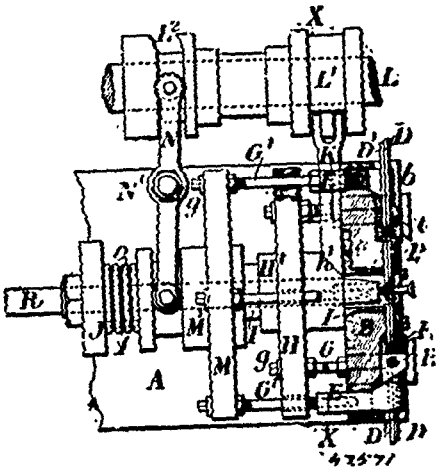
Claim.—1st. In a heat regulator, a seat provided along its front with two openings extending the full length thereof, one near the floor and the other near the top thereof, a heater placed beneath said seat, a shutter adapted to close said upper opening, each end of said shutter provided with a plate, a lifting bar attached to said shutter and to said plate, a lever connected with said plate by the operation of which each end of said shutter may be independently elevated or lowered as desired, so that the flow of heated air of one end of a car or other apartment may be controlled without affecting the flow of air to the other end of the same, substantially as described and for the purpose set forth. 2nd. In a heat regulator, a seat provided along its front with two openings, one near the floor and the other near the top thereof, a heater placed beneath said seat, a shutter adapted to close said upper opening, each end of said shutter provided with a

means for adjusting the end of a shutter independently, so that the flow of the heated air of one end of a car or other apartment may be



controlled without affecting the flow of air to the other end of the same, substantially as described and for the purpose set forth.

No. 47,571. Screw Cutting Machines. (*Filières à vis.*)



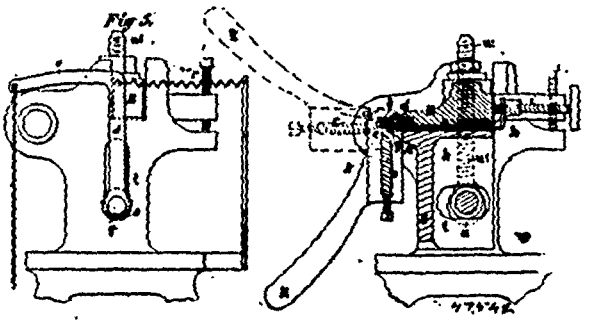
Thomas Benjamin Smith, of Birmingham, England, 3rd December, 1894; 6 years.

Claim.—1st. In a screw-cutting machine in which a number of cutters or operating tools are made to advance in a radial direction to operate upon a centrally situated screw-blank, the combination with a face plate B, of radially sliding blocks C, holding the tools and having inclines c, bars E, sliding through the face plate in a direction parallel or nearly so with the axis of the machine, and having inclines *e*, adapted to force the blocks C, and tools radially inwards when the bars are moved in a backward direction, springs F, adapted to force the blocks C, and tools radially outward on the forward motion of the bars E, and means for imparting a to and fro motion to the said bars, substantially as described. 2nd. In a screw-cutting machine, the combination with a face plate B, of radially sliding blocks C, holding the tools and having inclines c, bars E, sliding through the face plate and having inclines *e*, adapted to force the blocks C, and tools radially inwards when the bars are moved in a backward direction, springs F, adapted to force the blocks C, and tool radially outwards on the forward motion of the bars E, a disc H, carrying screwed stems G, adjustably connected to the bars E, a sliding sleeve H^1, forming part of disc H, and having inclined faces, and a sliding arm K, with inclines operating against the inclines of the sleeve H^1, and an appliance for moving the said arm forward, so as to force backward, the sleeve H, substantially as described. 3rd. In a screw-cutting machine, the combination with a face plate B, of radially sliding blocks C, carrying the operating tools D, D^1, D^2, and sliding in grooves in the face plate, bars E, sliding through the face plate having inclines operating against inclines on the blocks C, and slots through which the tools D, D^1, D^2, pass screwed stems G, screwing into threaded holes in the bars E, and rotatably secured in a disc H, and means for imparting a to and fro motion to the said disc, substantially as described.

No. 47,572. Manufacture of Metal Boxes.
(*Fabrication de boîtes métalliques.*)

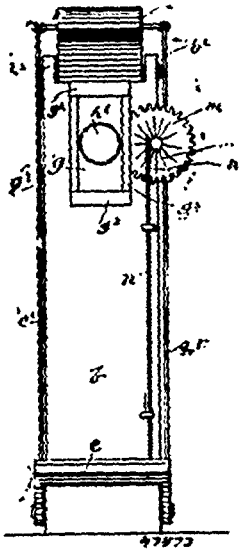
Emile René Pettier, Paris, France, 3rd December, 1894; 6 years.

Claim.—1st. In the manufacture of sardine and like metal boxes forming the body of the box from a blank having a small tongue projecting therefrom, thinning the metal blank along two parallel lines extending from the said tongue, and doubly folding the blank below the thinned portion, substantially as and for the purpose



hereinbefore described. 2nd. The machine for doubly folding the bodies of sardine and like metal boxes at a single stroke, such machine comprising a plate *e* and grooved counter plate *d*, arms for bringing the edge of the plate *e* into engagement with the groove in the plate *d*, and an arrangement of spring and eccentric for keeping the plate *d* raised and treadle for lowering the said plate, substantially as hereinbefore described.

No. 47,573. Box Ending Machine.
(*Machine à poser les bouts des boîtes.*)



William Thomas Miller, Montreal, Quebec, Canada, 3rd December, 1894; 6 years.

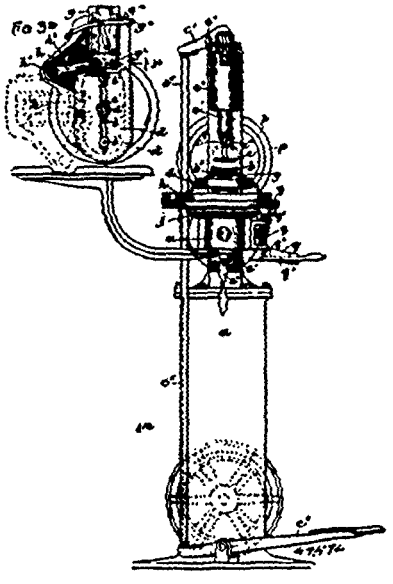
Claim.—1st. A box-ending machine having an intermittently rotatable work support. 2nd. In combination with a box-ending machine, a work support or form variable in size. 3rd. In combination with a box-ending machine, a work support or form variable in size and shape. 4th. In a box-ending machine, the combination with a depressor, of a rotatable work support or form for the purpose set forth. 5th. In a box-ending machine, the combination with the frame or standard, of a vertically adjustable work support and means for exerting a pressure upon the upper end of such work support for the purpose set forth. 6th. In a box-ending machine, the combination with the frame or standard, of a vertically adjustable work support, a depressor for exerting a pressure upon the upper end of such work support and means for operating said depressor and securing the intermittent rotation of such work support, for the purpose set forth. 7th. In a box-ending machine, the combination of a standard having a vertical slot near its upper end a rotatable and variable work support the trunnion or spindle of which is adjustably carried in said slot, a depressor pivotally mounted in said standard, means for rotating said work support and for raising and for lowering same, for the purpose set forth.

No. 47,574. Sole Rounding Machine.
(*Machine pour arrondir les semelles.*)

The Globe Buffer Company, assignee of Lewis E. Ericson, both of Boston, Massachusetts, U.S.A., 3rd December, 1894; 6 years.

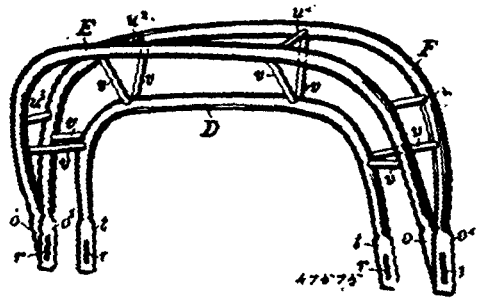
Claim.—1st. In a sole-rounding machine, the combination of the

supporting frame, a fixed tubular stud or support such as d^3, rigidly secured to the supporting frame, the cam-plate supported by and detachable from the tubular stud and provided with a central slot, said plate and stud having interlocking projections and recesses



whereby exactness of position of the plate is insured, and a clamping bolt fitted to turn in the orifice of the tubular stud and provided at its upper end with a head adapted to be turned across the slot in the cam-plate and at its lower end with a clamping lever, as set forth. 2nd. A sole-rounding machine comprising in its construction a fixed pattern, a stud such as d^3, affixed to the supporting frame, a cam-plate attached to the upper end of said stud, a rotary driver mounted to rotate on said stud and provided on its under side with a bevel-gear, a knife-carriage engaged with said driver and with the cam-plate and having a knife co-operating with the pattern, a shaft m, having at one end a bevel-gear meshing with the bevel-gear on the driver and at the other end an eccentrically arranged roll or projection such as m^1, a shaft n, out of line with the shaft m, and provided with parallel guides between which the roll m^1 projects, and means for rotating the shaft n, as set forth. 3rd. A sole-rounding machine comprising in its construction a fixed pattern, a fixed cam-plate, a rotary driver having a projection such as q^7 on its under side, a knife-carriage independently movable on said driver and impelled thereby, a driving-shaft and connections between said shaft and the driver whereby the latter may be rotated, said connections including, first, a loose pulley having a clutch-member, and secondly, a sliding clutch-member rotatively engaged with the driving-shaft, a bell-crank lever pivoted to the supporting frame and engaged at one end with the sliding clutch-member, said lever being adapted to be moved by the operator to connect and disconnect the loose pulley and sliding clutch-member, and devices intermediate the said lever and the projection q^7, through which the lever may be moved by said projection to disconnect the loose pulley and clutch-member once during each rotation of the driver. 4th. A sole-rounding machine comprising in its construction a fixed pattern, a fixed cam-plate, a rotary driver having a projection such as q^7 on its under side, a knife-carriage independently movable on said driver and impelled thereby, a driving-shaft, and connections between said shaft and the driver whereby the latter may be rotated, said connections including, first, a loose pulley having a clutch-member, and secondly, a sliding clutch-member rotatively engaged with the driving-shaft, a bell-crank lever pivoted to the supporting frame and engaged at one end with the sliding clutch-member, said lever being adapted to be moved by the operator to connect and disconnect the loose pulley and sliding clutch-member, a plunger or pin such as q^4, adapted to be depressed by the projection q^7, and a finger q^3, pivotally connected to the bell-crank lever and normally in position to be depressed by said plunger, said finger being movable so that it may be displaced to prevent the stoppage of the driver. 5th. In a sole-rounding machine, the combination of the carriage, the knife-supporting slide movable on said carriage, springs supported by the carriage, and means for imparting a multiplied motion from the spring to the slide, as set forth. 6th. In a sole-rounding machine, the combination of the carriage, the knife-supporting slide movable on said carriage, springs supported by the carriage, a frame movable independently on the carriage by said springs and provided with a larger and a smaller pinion, a rack affixed to the carriage and meshing with the smaller pinion, and a rack affixed to the slide and meshing with the larger pinion, as set forth. 7th. In a sole-rounding machine, the combination of the carriage, the knife-supporting slide movable on said carriage, a spring or springs arranged to force the slide forward, a lever and link whereby the slide may be moved backward, ratchet-teeth and a pawl whereby the slide may be held in any position to which it may be retracted, and a pawl-displacing device whereby the slide may be released. 8th. In a sole-rounding machine, the combination with the pattern, of the clamp, the yoke rigidly fixed to the clamp, the plunger having a bearing on which the yoke is adapted to rock, and a detent connected by a flexible spring with the plunger and adapted to detachably secure the yoke to the plunger, as set forth. 9th. The cam having a fixed pattern-guiding or locating stud and two adjustable pattern-supporting studs at opposite sides of the said locating stud, as set forth. 10th. The cam having a fixed pattern-guiding or locating stud and two adjustable pattern-supporting studs at opposite sides of the said locating stud, combined with a pattern having orifices for said studs. 11th. The combination of the fixed cam-plate, the rotary driver having a flat upper surface and a recess in said surface, the knife-carriage having rolls entering the groove in the cam and independently movable on the flat upper surface of the driver, and the coupling connecting the driver and carriage and located in the recess of the driver. 12th. The combination of the fixed cam-plate, the rotary driver having a flat upper surface and a recess in said surface, the knife-carriage having rolls entering the groove in the cam, and the coupling connecting the driver and carriage and located in the recess of the driver, said coupling being connected with the carriage at a point coinciding with one of the cam-engaging rolls on the carriage.

No. 47,573. Sulky. (*Désobligeante.*)

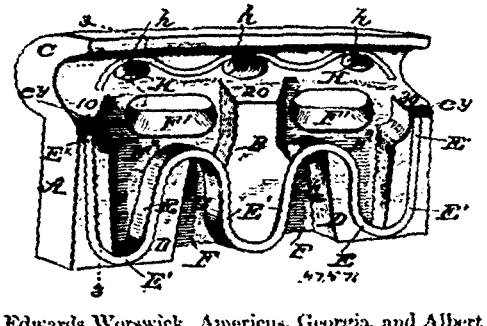


George William Clarke, Rochester, New York, and Clifford Leslie Barnett, North Vernon, Indiana, both in the U.S.A., 3rd December, 1894; 6 years.

Claim.—The combination with the wheels, seat and thills of a pneumatic sulky, of an arch consisting of three curved tubular members, the members arranged at angles one in front of and the other behind the lower member, and each parallel to the lower member, and with their ends meeting to support the outer ends of the wheel-spindles, and the lower member supporting the inner ends of the wheel-spindles, and suitable bracing between the upper members and the lower member at their upper part, substantially as set forth.

No. 47,576. Car-wheel Brake-shoe and Dresser.

(*Sabot de frein pour roues de chars.*)

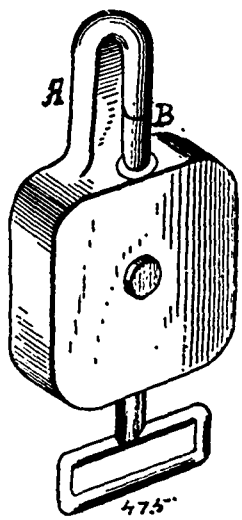


James Edwards Worswick, Americus, Georgia, and Albert Edward Worswick, Montgomery, Alabama, both in the U.S.A., 3rd December, 1894; 6 years.

Claim.—1st. A car-wheel brake-shoe and dresser, having a body formed of a soft metal and having transverse cutting or dressing faces of a harder material, which are projected beyond the bearing face of the soft portion as specified. 2nd. In a car-wheel brake-shoe and dresser, in combination, the main or body portion formed of a soft metal, cutting portions formed of a harder metal cast with the soft metal, and having their inner edges projected beyond the inner face of the soft metal, as and for the purpose described. 3rd. A car-wheel brake-shoe and dresser, having transverse cutter members projected beyond the inner face outside of its tread portion, the degree of cutting surface diminishing as it approaches that part of tread which receives the most wear, and increasing at a point where there is the least wear, as and for the purposes set forth.

4th. A car-wheel brake-shoe and dresser, consisting of a body portion formed of two metals of different degrees of hardness, the harder one being sinuous and extending from end to end of the softer metal with its reverse edges projected above depressions to form transverse cutting members, as and for the purposes specified. 5th. A car-wheel brake-shoe and dresser, formed of a main or body portion of a soft metal, and an integral continuous portion formed of a harder material projected transversely beyond the contact face of the body at intervals, substantially as shown and described. 6th. A car-wheel brake-shoe and dresser, composed of a body formed of a main portion of soft metal, and a portion of harder metal projected beyond the bearing face of the soft body, the spaces in such soft body between the hard metal portions having pockets or depressions, terminating at their outer ends in discharge openings, all arranged substantially as shown and for the purposes described. 7th. A car-wheel brake-shoe, comprising a main or body portion of a soft metal, such as iron, and a harder portion, such as steel, formed of a sinuous or angular member extending continuously from end to end of the shoe, whereby to form transversely curved cutting members, said soft body having depressions on alternate sides of the reverse curves of the cutting portions, substantially as and for the purposes described. 8th. A car-wheel brake-shoe and dresser, formed of a body of soft metal having projecting cutting faces formed of a continuous member of harder metal cast with a soft body, sinuous or angular in shape extending from end to end of the soft body, and having its bearing faces concaved to fit the curvature of any wheel to which it is to be applied, substantially as shown and for the purposes specified. 9th. A car-wheel brake-shoe, having a body formed of soft metal, and having transverse cutting or dressing faces, which extend to the outer edge of the shoe, such shoe being of a width slightly greater than the tread face of the wheel, all substantially as shown and described. 10th. A car-wheel brake-shoe, formed of a body portion having its bearing face curved to fit over the flange of the wheel, said bearing face having cutter members formed of a harder metal than the body, said cutter members having parts thereof extended to cut on to the throat of the flange as hereinbefore described.

No. 47,577. Snap-Hook. (*Crochet à ressort.*)



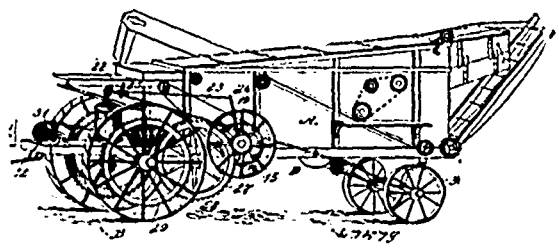
Thomas Lacey and Joseph R. Lewis, both of Fort Benton, Montana, U.S.A., 3rd December, 1894; 6 years.

Claim.—1st. A snap-hook comprising a hook proper and a movable part or latch adapted to be applied to a strap, the tension of which serves to hold the said latch securely against the end of the hook, substantially as set forth. 2nd. In a snap-hook, the combination of a latch and a loop, and an intervening mechanism whereby the said latch and loop are caused to move in opposite directions, substantially as set forth. 3rd. In a snap-hook, the combination of a latch and a loop, each having a toothed plate, and a pinion meshing with the teeth of each plate, whereby the movement of the latch or loop in one direction will produce a corresponding movement of the other part in the opposite direction, substantially as specified. 4th. In a snap-hook, the combination of a latch and a loop each having toothed plates, a pinion meshing with the said toothed plates and causing an opposite movement of the latch or loop, and a spring to normally hold the latch closed, substantially as set forth.

No. 47,578. Threshing Machine. (*Machine à battre.*)

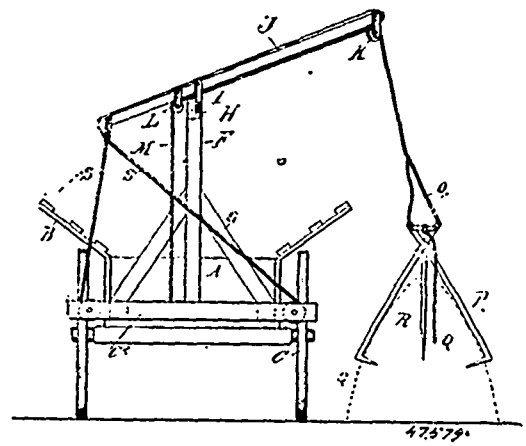
Riley Knight and Ira Knight, both of Moscow, Idaho, U.S.A., 3rd December, 1894; 6 years.

Claim.—1st. In a threshing machine, a table located over one of the axles, an engine carried by the said table and adapted to drive the threshing mechanism and likewise the supporting wheels of the machine, and a shifting mechanism, substantially as described, whereby the power may be directed to said supporting wheels or to the threshing mechanism, as required and set forth. 2nd. In a threshing machine, a table located over one of the axles, an engine located on the table, a driving-shaft operated by said engine, a



driving connection between the shaft and the threshing mechanism, a gear connection between said drive-shaft and the supporting wheels of the machine, and a shifting mechanism, substantially as described, whereby the power may be directed to the threshing mechanism or to the wheels of the machine, as set forth. 3rd. In a threshing machine, the combination with a table located over one of the axles, an engine carried by said table, a driving-shaft driven by said engine, and a hoisting drum located upon the table, of a gear connection between the driving-shaft and the supporting wheels of the machine, and also a driving connection between the driving-shaft, the threshing mechanism of the thresher and the hoisting drum, and shifting devices whereby the power may be directed either to the threshing mechanism, the supporting wheels or the hoisting drum, and a derrick table carrying a high feeder, the lifting forks of which are operated from the said hoisting drum, as and for the purpose specified.

No. 47,579. Hay Loader. (*Monte-foin.*)



Warren Cerenius Card, Mead, Michigan, U.S.A., 3rd December, 1894; 6 years.

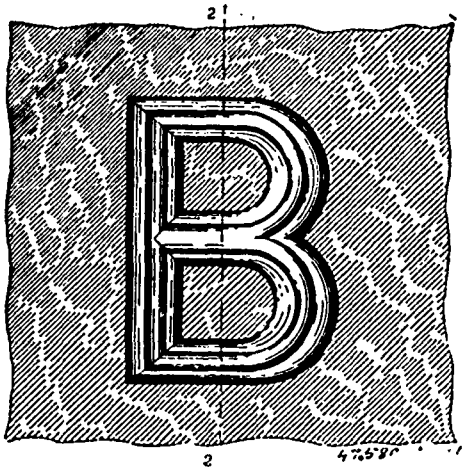
Claim.—1st. In a hay-loader, the combination with a frame, of a post thereon, a turn-table on the post, a boom pivoted on said turn-table, a hoisting rope on the boom, a hay-hook secured on one end of the hoisting rope, a windlass on the frame to which the opposite end of the hoisting rope is secured, ropes secured to the rear end of the boom, and windlasses on the opposite sides of the frame to which the ropes are secured, substantially as described. 2nd. In a hay-loader, the combination with a movable support of a frame secured thereon, a post on a frame, a turntable on the post, a boom pivoted on said turntable, a hoisting rope on the boom, a hay hook secured to one end of the hoisting rope, a windlass on the frame to which the opposite end of the hoisting rope is secured, and flexible means connected to the inner end of the boom and adjustably secured to opposite sides of the movable support for rocking and adjusting the boom on its pivotal point, substantially as described. 3rd. In a hay-loader, the combination of a frame, having longitudinal and cross timbers, the longitudinal sills having means for securing it to the wagon-box, of a post secured centrally to the frame, a boom swivelled at the top thereof, the sheaves L and K on the boom, the cord passing over the sheaves, the hay-hook suspended from the cord, a trip for the hooks, cords connected to the rear end of the boom, and a windlass on each side of the frame to which said cords are secured, substantially as described.

No. 47,580. Manufacture of Enamel Glass Letters, etc. (*Fabrication de lettres en verre émaillées.*)

Ernest Bohn, Barnsburg, and John Burchell, North Finchley, both in Middlesex, England, 3rd December, 1894; 6 years.

Claim.—1st. A single or a double enamel glass letter or sign with-

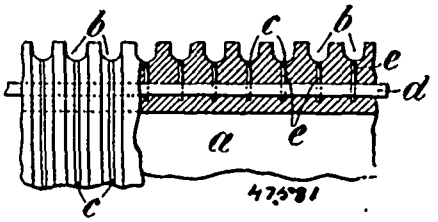
out a metal backing and made by casting melted enamel glass in a mould, as set forth. 2nd. An enamel glass letter or sign fashioned



by heat out of enamel glass, as set forth.

No. 47,581. Manufacture of Wire.

(*Fabrication de fil de fer.*)



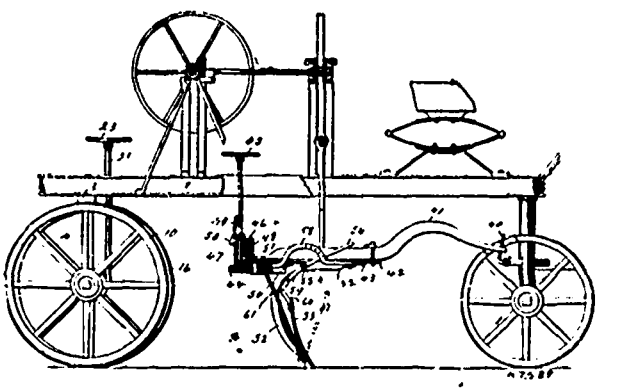
Richard David Sanders, Eastbourne, England, 3rd December 1894; 6 years.

Claim.—1st. The manufacture of wire by electro-deposition upon a wire so placed and connected that the deposit will accumulate on one side of such wire so that the deposited metal can be removed or separated therefrom, substantially as hereinbefore described. 2nd. The manufacture of wire by electro-deposition upon a wire inserted in or lying in the bottom of a spiral groove formed around a suitable mandril so that the deposit may accumulate upon one side of the wire and be subsequently separated therefrom and drawn in the ordinary manner, substantially as hereinbefore described. 3rd. A mandril for the manufacture of wire by electro-deposition constructed of insulating material, having a spiral or other suitable groove formed thereon and a fine wire inserted in or lying in the bottom of the said groove and suitably connected to an electric conductor and so arranged that the deposit will accumulate upon one side of the wire and may be afterwards removed and separated from the wire, substantially as hereinbefore described. 4th. In an apparatus for the manufacture of wire by electro-deposition, a mandril suspended upon a revolving spindle so that a portion of its surface shall be above the level of the liquid in the tank, as and for the purpose hereinbefore described and illustrated in figures 3 and 4 of the accompanying drawing.

No. 47,582. Road Scraper. (*Grattoir de rue.*)

The Western Wheeled Scraper Company, assignee of Thomas Ruel McKnight, both of Aurora, Illinois, U.S.A., 3rd December, 1894; 6 years.

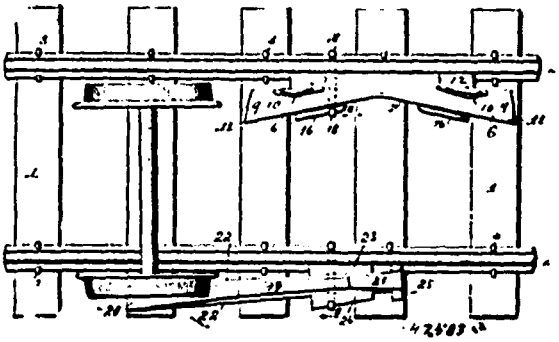
Claim.—1st. The combination of a frame having an extensible axle composed of two separate axles, one of which is adapted to be laterally extended, means for extending the laterally extensible axle, spring-pressed locking pins mounted upon said frame and automatically moved by their springs into engagement with the two axles, and means for moving the locking pins against the tension of their springs to disengage said pins from the axles, substantially as described. 2nd. The combination of a frame having an extensible axle composed of two separate axles, one of which is adapted to be laterally extended, means for extending the laterally extensible axle, locking pins mounted upon said frame and movable into and out of engagement with the axles, and lever mechanisms connected with the locking pins for withdrawing them from engagement with the axles, substantially as described. 3rd. The combination of a frame having an extensible axle composed of two separate axles, one of which is adapted to be laterally extended, rack and pinion mechanism for extending the laterally extensible axle, locking pins mounted upon the said frame and movable into and out of engagement with the two axle, and independent lever mechanisms connected respectively with the locking pins for withdrawing them from engagement with the two axles, substantially as described. 4th. The combination with a frame, axle boxes secured thereto, two separate longitudinally movable axles slidingly mounted in said axle boxes, and wheels



mounted on said axles, of a rack secured to one of said axles, a pinion engaging said rack, means for rotating the pinion, locking pins mounted upon the said frame and movable into and out of engagement with the two axles, and independent lever mechanisms connected respectively with said locking pins for withdrawing them from engagement with the axles, substantially as described. 5th. The combination with a frame, axles boxes secured thereto, two separate longitudinally movable axles slidingly mounted in said axle boxes, a bearing plate secured to said axle boxes below said axles and connecting said axle boxes together, rollers journalled on the inner ends of said axles and bearing upon said bearing plate, rollers journalled in said axle boxes and bearing on said axles, and wheels mounted one on each of said axles, of a rack secured to one of said axles, a pinion engaging with said rack, mechanism for rotating said pinion, whereby said rack may be moved longitudinally, and mechanism for locking said axles in the desired position, substantially as specified. 6th. In a scraper, the combination with a frame 1, axle boxes 5, 5^a secured to said frame, bearing plates 6, 7, secured to said axle boxes, axle 9 slidingly mounted in said axle boxes 5, 5^a, and a wheel 10 mounted on said axle 9, of an axle 13 slidingly mounted in said axle boxes 5, 5^a, a wheel 16 carried by said axle 13, a rack 18 secured to said axle 13, a pinion 24 mounted on said axle box 5^a, and engaging with said rack, and mechanism for rotating said pinion so as to move said rack longitudinally, substantially as specified. 7th. In a direct draft road scraper, the combination with a scraper-blade frame adapted to be suspended under a scraper carriage, and a scraper-blade carried by the scraper-blade frame, of a rock-shaft mounted on said scraper-blade frame and connected with the scraper-blade, and a lever for rocking the said shaft to adjust the pitch of the scraper-blade, substantially as described. 8th. The combination with a scraper-blade frame, and a scraper-blade pivotally connected therewith, of a rock-shaft journalled on the scraper-blade frame and pivotally connected with the scraper-blade, and a lever for turning the rock-shaft to vary the pitch of the scraper-blade, substantially as described. 9th. The combination with a scraper-blade frame, of a rock-shaft 55 journalled in said scraper-blade frame and having arms 59, a scraper-blade pivotally supported by said scraper-blade frame, links connecting said arms 59 with said scraper-blade, and a lever 56 secured to said rock-shaft, whereby the pitch of said blade may be varied by operating said lever, substantially as described. 10th. The combination with a scraper-blade frame, of a rock-shaft 55 journalled in said scraper-blade frame and having arms 59, a scraper-blade pivotally supported by said scraper-blade frame, links connecting said arms 59 with said scraper-blade, a lever 56 secured to said rock-shaft, whereby the pitch of said blade may be varied by operating said lever, and a locking device carried by said scraper-blade frame, whereby said lever may be locked in different positions, substantially as described. 11th. The combination with a frame 41, an outer ring 42 secured to said frame, an inner ring 43 carried by said outer ring and adapted to be rotated therein, of arms 52 secured to said inner ring 43, a scraper-blade 53 pivotally mounted on said arms 52, a rock-shaft 55 journalled on said ring 43 and having arms 59, said arms 59 being pivotally connected with said scraper-blade, and a lever 56 secured to said rock-shaft, whereby the movement of said lever the angle of said scraper-blade with the ground may be adjusted, substantially as described. 12th. The combination with a frame 41, an outer ring 42 secured to said frame, and an inner ring 43 carried by said outer ring and adapted to be rotated thereon, of arms 52 secured to said inner ring 43, a scraper-blade 53 pivotally mounted on said arms 52, a rock-shaft 55 journalled on said ring 43 and having arms 59, links 61 pivoted to said arms 59 and to said scraper-blade, a lever 56 secured to said rock-shaft, whereby by the movement of said lever the angle of said scraper blade with the ground may be adjusted, and mechanism for locking said lever whereby said scraper-blade locked at the desired angle, substantially as described.

No. 47,582. Car Replacer.

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



James M. Morris, Salt Lake, assignee of Summer J. Harkness, Scofield, both in Utah, U.S.A., 3rd December, 1894; 6 years.

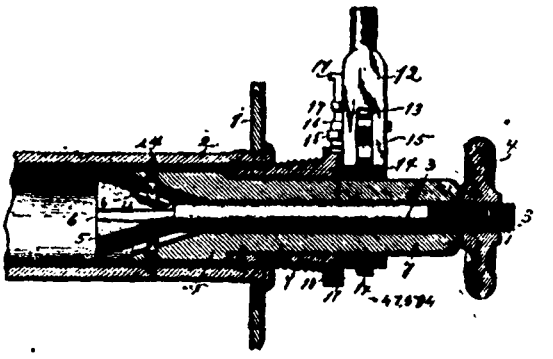
Claim.—1st. A car replacer, comprising an inner section secured at the inner side of one of the track-rails and having its upper surface inclined downwardly toward said rail, and terminating at its opposite ends in downwardly diverging or bevelled surfaces, substantially as set forth. 2nd. A car replacer, comprising a section arranged at the inner side of one of the track-rails, having its upper surface inclined downwardly and inwardly toward said rail, and having at the opposite ends of said surface downwardly divergent surfaces, and a flange projecting upwardly from the inner margin of said section, in combination with a second section arranged outward of and at an angle to the companion track-rail, and having its upper surface horizontal, and terminating at its opposite ends in downwardly diverging bevelled surfaces, substantially as set forth. 3rd. A car replacer, comprising a section arranged at the inner side of one of the track-rails, having its upper surface inclined downwardly and inwardly toward said rail, and having at the opposite ends of said surfaces downwardly divergent surfaces, and a flange projecting upwardly from the inner margin of said section, in combination with a second section arranged outward of and at an angle to the companion track-rail, and having its upper surface horizontal, and terminating at its opposite ends in downwardly diverging bevelled surfaces, and having downwardly divergent sides, substantially as set forth. 4th. In a car replacer, the combination with a section fitting against the inner side of one of the track-rails, and having its inner margin diverging inwardly from a point about midway its length, and having its upper surface from said margin inclined downwardly to the track-rail, a flange projecting vertically upward from the inclined margin, and elongated lugs or ribs projecting upwardly from the upper side of said section, of a companion section arranged at the outer side of the other track-rail, and having a horizontal upper surface terminating at its opposite ends in downwardly divergent surfaces, substantially as set forth. 5th. A car replacer, comprising a section fitting against one of the track-rails, and having its free margin converging from a point about midway its length so as to extend at an angle to the track-rail, and elongated lugs or shoulders projecting from said divergent margin, and a retainer-bar or clamp hook fitting against the underside of the track-rail and the said section and engaging the outer base flange of the rail and one of said elongated lugs or shoulders, and prongs or points depending from said section, substantially as and for the purpose set forth. 6th. A car replacer, comprising an inner section having a straight margin and a margin extending divergently outward from a point about midway its length, and formed in the shape of a hollow casting, and having its upper surface inclined downwardly toward the straight margin, downwardly divergent bevelled surfaces 12, 12, at the opposite ends of said upper surface, downwardly divergent surfaces 9, 9, also at the opposite ends of said upper surfaces and projecting beyond the ends of the surfaces 12, 12, so as to form vertical shoulders 8, and guide-ribs projecting vertically upward from the surfaces 4 and 9 and extending approximately parallel with the shoulders 8, substantially as set forth. 7th. A car replacer, comprising a section in the form of a hollow casting, and a pin or lug depending from the bottom of said casting, and provided with an aperture near its lower end, in combination with a retainer-bar or clamp, having an aperture engaging said pin or lug, and a removable pin engaging the aperture in said pin or lug and supporting said retainer-bar or clamp in position, substantially as set forth.

No. 47,584. Machine for Cutting Boiler Tubes.

(*Machine à couper les tubes de chaudières.*)

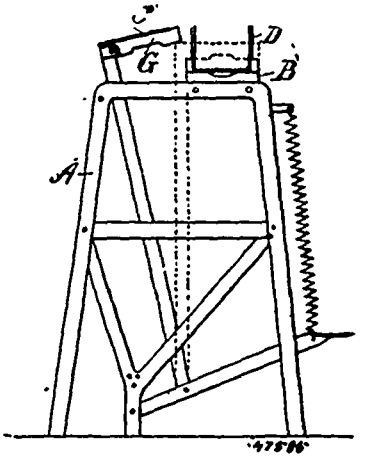
Carl Otto Thierne and Augusta Peliuski, both of St. Louis, Missouri, U.S.A., 3rd December, 1894; 6 years.

Claim.—1st. In a tube cutter, the combination with the stock and laterally movable cutters, of a tapered integral sleeve threaded upon its outer surface, means whereby said sleeve may be rotated to securely clamp said stock and said cutters in position within the tube to be cut, means for rotating the cutters to cut the tube and means for simultaneously feeding them laterally, substantially as herein specified. 2nd. In a device for cutting boiler tubes, the combination of a cylindrical casting 7, an enlarged portion 8, formed on one end of said casting, a shaft 3, mounted in said



cylindrical casting 7, an enlarged or conical portion, cutters 24, mounted in the enlarged portion 8, of the casting 7, projections 26, on said cutters in engagement with the guideways 6, formed in the enlarged or conical end 5, of the shaft 3, a casting screw threaded on its outer periphery, an annular flange 10, on one end of said casting, notches 11, formed in said flange, a handle mounted on said casting 7, a slot 13, formed in said handle, a ratchet-wheel 14, placed in said slot, and a pawl 15, connected to said handle and constructed to engage said ratchet-wheel. 3rd. In a device for cutting boiler tubes, a handle 12, straps 17 and 18, connected to said handle, a bolt mounted in said straps, a pawl 20, mounted in said bolt, and a spring 22, adapted to retain the pawl in its outward position. 4th. In a device for cutting boiler tubes, the combination of a shaft mounted for rotation, a head, conical in form, mounted on the shaft, and provided with a plurality of dove-tailed grooves, hinge members or lugs mounted in said grooves and in sliding connection therewith, and cutters mounted in proximity to said head and hinged to said lugs.

No. 47,585. Broom. (*Balai.*)



William Sanfield McDonel, Windsor, Ontario, Canada, assignee of Daniel Alexander McDonel, Detroit, Michigan, U.S.A., 4th December, 1894; 6 years.

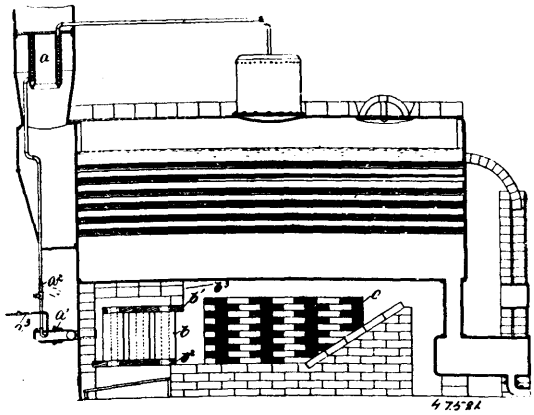
Claim.—1st. The herein described method of manufacturing brooms, consisting in compressing the body corn in a clamping frame surrounding the broom and handle, securing that frame to the handle, and then in securing the covering over the body, substantially as described. 2nd. The method of forming brooms consisting in securing the covering to a handle at a point above the lower end thereof and with the butts presented downward and evened, securing the body to the handle below the butts and finally securing the covering over the body, substantially as described. 3rd. In a broom, the combination of the handle and body corn, a U-shaped frame in which the body corn is adapted to be compressed by binding down the ends of the frame upon the corn and handle, and means for securing the frame to the handle, substantially as described.

No. 47,586. Furnace. (*Fournaise.*)

Hugo Jacob Donan, Tacoma, Washington, assignee of Samuel M. Trappe, Maywood, Illinois, both in the U.S.A., 4th December, 1894; 6 years.

Claim.—1st. In a regenerating furnace, the combination with a

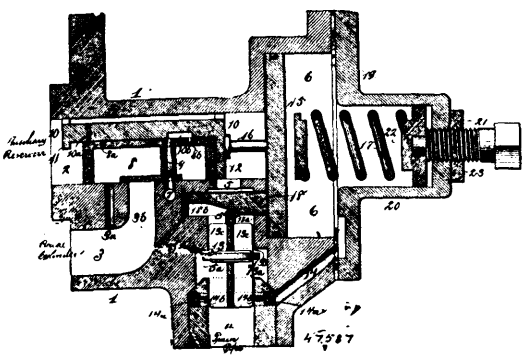
hearth, of regenerating chambers situated one on each side thereof, a flue leading from each of said chambers, a steam superheater situated in each of said flues, said superheaters being continuously in communication with a source of steam supply, each of said superheaters being in the form of an open-ended hollow



cylinder, the axis thereof lying in the line of travel of the escaping gases of combustion, a mixing chamber provided in each of said flues, said mixing chamber being in the form of a hollow open-ended cylinder, the axis thereof lying in the line of travel of the escaping gases of combustion, a steam duct and an oil duct opening into each of said mixing chambers, said steam ducts being adapted to communicate with said superheaters, and valve mechanism for sealing one or the other of said flues and opening the steam and oil ducts leading thereto, whereby the passage of the escaping gases of combustion prevents the accumulation of carbon in the mixing chambers, or of soot and ash on the superheaters, substantially as described. 2nd. The combination with the hollow tiles b, disposed between the plates b^1, b^2, of refactory material, of the oil and steam nozzles disposed opposite said titles, air inlets beneath said titles, and the wall b^3 of refractory material above said titles, substantially as described. 3rd. The combination with upper and lower walls, of hollow tiles of refractory material disposed between the same, oil and steam nozzles disposed opposite said tiles, air inlets beneath said tiles, and a passageway leading from the upper ends of said tiles to the mingled jet or steam and oil issuing from said nozzles, whereby the air is passed through the tiles before coming in contact with the oil and steam, substantially as described. 4th. The combination with the refractory material, of oil and steam nozzles disposed opposite the same, interior channels provided in said refractory material inaccessible to the oil and steam issuing from said nozzles, air inlets in communication with said interior channels, and a passageway leading from said channels to the mingled jet of steam and oil issuing from said nozzles, whereby the air is passed through the interior channels before coming in contact with the oil and steam, substantially as described.

No. 47,587. Triple Valve for Air-Brakes.

(*Triple soupape pour freins à air.*)



Henry Lawrence Howe, Canadaigua, New York, U.S.A., 4th December, 1894; 6 years.

Claim.—1st. A triple valve having train-pipe, auxiliary reservoir, exhaust and brake-cylinder openings, a valve-chamber with which said openings communicate, a valve in said chamber adapted to control communication between the exhaust and brake-cylinder openings and normally holding the brake-cylinder open to the exhaust, and also controlling communication between the auxiliary reservoir and brake-cylinder openings, a piston to operate said valve communication between the respective sides of said piston and the train-pipe, and a double seated check valve controlling communication between the train-pipe and the valve-chamber and one side of the piston. 2nd. In a triple valve having brake-cylinder, exhaust and auxiliary reservoir openings, a recessed valve, the recess of which communicates with the exhaust and the brake-cylinder openings, and another valve controlling the communication of the brake-cylinder opening through the recess of the recessed valve with the exhaust, and with the auxiliary reservoir opening, substantially as described. 3rd. A triple valve having a valve-chamber, with auxiliary reservoir, brake-cylinder and train-pipe openings, each leading into said chamber, and a valve in said chamber controlling communication between the auxiliary reservoir and the brake-cylinder openings, and also communication between the train-pipe and the brake-cylinder openings, and a double-seated check-valve in said train-pipe opening, substantially as described. 4th. A triple valve having a valve-chamber, auxiliary reservoir, exhaust and brake-cylinder openings, each communicating directly with said chamber, a slide valve in said chamber controlling communication between the brake-cylinder and the exhaust openings and normally holding the brake-cylinder open to the exhaust, and also controlling communication between the auxiliary reservoir and the brake-cylinder openings, and a train-pipe passage opening into said valve-chamber independent of the auxiliary reservoir opening, and thence through the valve chamber to the auxiliary reservoir, whereby the train-pipe is in constant communication with the auxiliary reservoir during the controlling movements of said valve, substantially as described. 5th. The combination with the triple valve, having the valve-chamber and the auxiliary reservoir opening, the brake-cylinder opening, and the train-pipe opening in combination with the valve-chamber of the sliding valve in said valve-chamber adapted to establish communication between the valve-chamber and brake-cylinder by a partial movement in one direction and to establish communication between the train-pipe opening and said brake-cylinder by a continued movement in the same direction, a piston with which said valve is connected, communication between the respective sides of the piston and the train-pipe opening, and a two-seated check-valve between the train-pipe and one side of the piston. 6th. A triple valve of the character described, having a piston operating a valve for opening and closing communication between the auxiliary reservoir and the brake-cylinder, a check-valve in the train-pipe passage, and a projection on the piston adapted to engage the check-valve when communication with the brake-cylinder is closed, so that the auxiliary reservoir may be charged when communication with the brake-cylinder is closed, substantially in the manner explained. 7th. A triple valve for fluid pressure brakes, having a valve-chamber, a passage from the auxiliary reservoir to said valve-chamber, a passage from the brake-cylinder to said valve-chamber, a valve controlling the brake-cylinder passage, a piston controlling said valve, a passage communicating between the train-pipe and the valve-chamber and one side of the piston, a two-seated check-valve in said train-pipe passage, an independent passage between the train-pipe and the other side of the piston, and means carried by the piston for holding the check-valve from its seat against pressure in the train-pipe when the brake-cylinder is open to the train-pipe through the valve, substantially as and for the purpose set forth. 8th. A triple valve for fluid pressure brakes having passages for communication with the brake-cylinder and train-pipe, a valve for connecting the brake-cylinder and train-pipe passage, a piston for moving said valve, communication with one side of the piston from the train-pipe passage, a two-seated check-valve in said train-pipe passage, an independent passage for communication between the train-pipe and the other side of the piston, and an arm on the piston for engaging the two-seated check-valve and preventing it from seating by air pressure in the train-pipe, substantially as explained. 9th. A triple valve having train-pipe, auxiliary reservoir and brake-cylinder openings, a valve-chamber interposed between and forming a communicating passage from the train-pipe opening to the auxiliary reservoir opening, a valve in said chamber controlling communication with the brake-cylinder opening, and normally holding said cylinder open to atmosphere, a solid piston controlling said valve interposed between said train-pipe opening that leads into the valve-chamber on one side of said piston, and another opening from the train-pipe leading only to the opposite side of said piston, substantially as described. 10th. A triple valve having openings communicating independently with the auxiliary reservoir, brake-cylinder and train-pipe passages, a single valve-chamber into which said passages lead, and forming a connecting passage from the train-pipe to the auxiliary reservoir, and a single valve in said chamber controlling communication between the brake-cylinder and the train pipe passages, and also communication between the train-pipe and said valve-chamber, and a double seated check-valve in said train-pipe passage, substantially as set forth. 11th. The combination with a triple valve of an air-brake apparatus, of a check-valve in the train-pipe passage seating upwardly, and a movable stop positively preventing the seating of said check-valve, substantially as described. 12th. The combination with a triple valve of an air-brake apparatus, of a check-valve in the train-pipe passage seating upwardly, and a movable stop carried by a part of the triple valve to positively obstruct the seating of said check-valve, substantially as described. 13th. A triple valve having a valve-chamber with brake-cylinder, exhaust, auxiliary reservoir and train-pipe openings, each communicating with said chamber, and said valve-chamber forming a com-

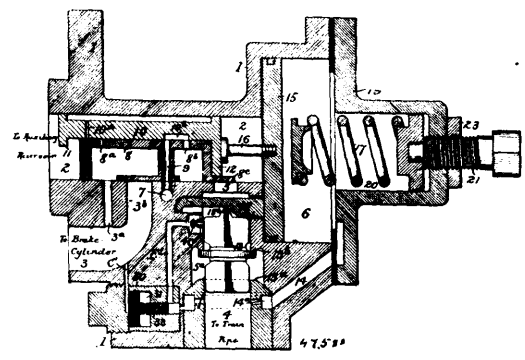
municating passage from the train-pipe to the auxiliary reservoir, a valve in said chamber controlling communication between the train-pipe and brake-cylinder openings, also between the brake-cylinder and exhaust openings and normally holding said openings in communication and also between the valve-chamber and train-pipe opening, substantially as described. 14th. A triple valve having a valve-chamber with brake-cylinder, exhaust, auxiliary reservoir and train-pipe openings each communicating with said chamber, and said valve-chamber forming a communicating passage from the train-pipe to the auxiliary reservoir, a valve in said chamber controlling communication between the valve-chamber, and brake-cylinder opening, also between brake-cylinder and exhaust openings and normally holding the said openings in communication and also between the train-pipe and brake-cylinder openings, substantially as described. 15th. A triple valve having a valve-chamber with brake-cylinder, exhaust, auxiliary reservoir and train-pipe openings, each communicating with said chamber, and said valve-chamber forming a communicating passage from the train-pipe to the auxiliary reservoir, a valve in said chamber controlling communication between the valve-chamber and brake-cylinder opening, between the brake-cylinder and exhaust openings, and normally holding said openings in communication between the train-pipe and brake-cylinder openings, and between the valve-chamber and train-pipe opening, substantially as described. 16th. A triple valve for fluid pressure brakes, having a brake-cylinder and train-pipe openings, a valve controlling said openings and placing them in communication, a check-valve in the train-pipe opening leading to said first named valve, and positive means for preventing the seating of the check-valve during such communication, substantially as described. 17th. In a triple valve for fluid pressure brakes, a single valve-chamber, the herein described two valves in said chamber, one normally stationary and adapted to move to open communication between the train-pipe and brake-cylinder openings, and the other valve movable independent of the first-named valve to close communication between the brake-cylinder and exhaust port and to open communication between the auxiliary reservoir and the brake-cylinder and hold the same open during the opening movement of the first-named valve. 18th. In a triple valve for fluid pressure brakes, the combination of a single valve-chamber, the herein described two valves in said chamber, one normally stationary and adapted to move open communication between the train-pipe and brake-cylinder openings, and the other valve movable independent of the first-named valve to close communication between the brake-cylinder and exhaust port and to open communication between the auxiliary reservoir and the brake-cylinder, a single piston positively connected to and moving one valve and connections with the other valve for moving it. 19th. In a triple valve for fluid pressure brakes, the combination with a valve-chamber, a valve in said chamber controlling communication between the train-pipe and brake-cylinder openings, and the auxiliary reservoir and brake-cylinder openings, and another valve in said chamber movable independent of the first-named valve to open and close communication between the auxiliary reservoir and brake-cylinder openings, and hold said communication open during the opening movement of the first-named valve. 20th. A triple valve having train-pipe, auxiliary reservoir, brake-cylinder and exhaust openings, a valve controlling communication between the train-pipe, the auxiliary reservoir and the brake-cylinder, between the brake-cylinder and the exhaust, and normally holding said openings in communication, and between the train-pipe and auxiliary reservoir, and a piston connected with said valve and interposed between said train-pipe opening and a passage from the train-pipe leading only to one side of said piston, substantially as described. 21st. A triple valve having train-pipe, auxiliary reservoir, brake-cylinder and exhaust openings, a valve controlling communication between the auxiliary reservoir and brake-cylinder, between the train-pipe and brake-cylinder, between the exhaust and brake-cylinder, and normally holding the said cylinder in communication with the exhaust, and between the train-pipe and auxiliary reservoir, and a piston connected with said valve and interposed between said train-pipe opening and a passage from the train-pipe leading only to one side of said piston, and a double-seated check-valve in the train-pipe, substantially as described.

No. 47,588. Triple Valve for Air-Brakes.

(*Triple soupape pour freins à air.*)

Henry Lawrence Howe, Canadaigue, New York, U.S.A., 4th December, 1894; 6 years.

Claim.—1st. In a fluid pressure brake, the combination of a valve controlling the exhaust from the brake-cylinder, a fluid pressure supply passage communicating with a reservoir, and a second valve controlling said passage the movement of which is effected by the variations of pressure in the brake-cylinder, substantially as described. 2nd. In an air-brake apparatus, the combination with the triple valve, of another valve exposed to the brake-cylinder pressure and closing communication between the train-pipe and auxiliary reservoir while the brakes are on, substantially as described. 3rd. The combination with the triple valve of an air-brake apparatus controlling the passage of pressure to the brake-cylinder of another valve controlling communication between the train-pipe and auxiliary reservoir and exposed to the brake-cylinder pressure, and a check valve in the train-pipe to hold the pressure in auxiliary reservoir, substantially as described. 4th. The combination with a brake-cylinder, reservoir, triple valve and train-pipe, of a passage connected with the train-pipe and leading to a reservoir forming a portion of the air-brake apparatus, and a differential piston or valve controlling said passage exposed to the change in



pressures in the train-pipe and brake-cylinder to open or close said passage after the movement of the triple valve, substantially as described. 5th. The combination with a brake-cylinder, reservoir, triple valve and train pipe, of a passage leading from the train-pipe and communicating with the auxiliary reservoir, and a differential piston or valve controlling said passage, the differential areas of which are exposed both to the brake-cylinder and to the train-pipe pressures to open and close said passage after the triple valve has moved, substantially as described. 6th. The combination with a brake-cylinder, reservoir, valve, train-pipe and a check-valve in said train-pipe, of a by-passage extending from the train-pipe to the upper side of said check-valve, and a piston or valve automatically controlling said by-passage, substantially as described. 7th. The combination with a brake-cylinder, reservoir, triple valve, train-pipe and a double seated check-valve in said train-pipe, of a by-passage opening into the train-pipe upon opposite sides of said double check-valve and a piston or valve controlling said by-passage exposed to the train-pipe and to the brake-cylinder pressures, substantially as described. 8th. The combination, with a brake-cylinder, reservoir, triple valve and train-pipe, of a by-passage leading from the train-pipe and communicating with the reservoir, a check-valve closing one end of said by-passage and a piston or valve controlling the other end and exposed to the brake-cylinder and train-pipe pressures, substantially as described. 9th. The combination, with a brake-cylinder, reservoir, and valve for controlling the admission and exhaust of fluid to and from the brake-cylinder, of a supply passage communicating with the auxiliary reservoir and a piston or valve controlling said passage and an air passage connection between the said piston or valve and the brake-cylinder whereby the piston or valve is operated by an increase and decrease in pressure in the brake-cylinder, substantially as described. 10th. The combination, in an air-brake apparatus, of a train-pipe passage to the auxiliary reservoir, a by-pass from the train-pipe passage communicating with the auxiliary reservoir having a valve exposed to and moved to open said by-pass by the train-pipe pressure when the brake is released, substantially as described. 11th. The combination, in an air-brake apparatus, of a check valve in the train-pipe passage adapted to close the same on an increase of pressure in the train-pipe, and a by-pass around or past said check-valve having a valve moved to open said pass by the train-pipe pressure when the brake is released, substantially as described. 12th. The combination, in an air-brake apparatus, of a check-valve in the train-pipe passage, a connection with the triple valve adapted in one position to hold the check-valve from its seat, a by-pass around or past said check-valve, and a piston or valve controlling said by-pass moved to open the by-pass after the triple valve is in release position, substantially as described.

No. 47,589. Triple Valve for Air-Brakes.

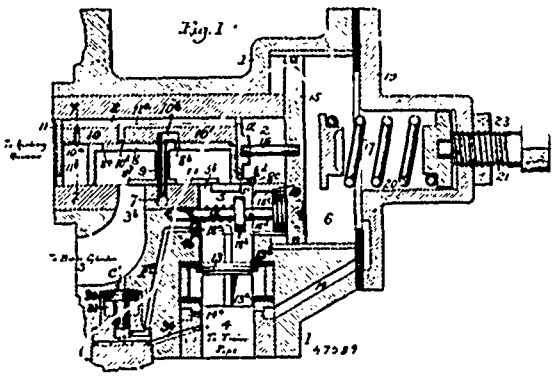
(*Triple soupape pour freins à air.*)

Henry Lawrence Howe, Canadaique, New York, U.S.A., 4th December, 1894; 6 years.

Claim.—1st. In a triple valve for fluid pressure brakes, the combination with the valve-chamber having connections with the auxiliary reservoir, brake-cylinder and train-pipe, of a two-part valve 10, 10^c, one part capable of movement independent of the other, and one part having ports controlling the admission of pressure to the brake-cylinder and the other part controlling the exhaust from the brake-cylinder, and an underlying valve holding the brake-cylinder constantly open, substantially as described. 2nd. In a triple valve for fluid pressure brakes, the combination with the valve-chamber having connections with the auxiliary reservoir, brake-cylinder and train-pipe, of a two-part slide valve 10, 10^c, adapted to control the admission of pressure to and the exhaust from the brake-cylinder, and a single piston with connections for moving one part of the slide-valve in advance of the other part, and an underlying valve

holding the brake-cylinder constantly open, substantially as described. 3rd. In a triple valve for fluid pressure brakes, the combination with the valve-chamber having connections with the auxiliary reservoir, brake-cylinder and train-pipe, of a two-part valve 10, 10^s, adapted to control the admission of pressure from the auxiliary reservoir to the brake-cylinder and the exhaust from the brake-cylinder and one

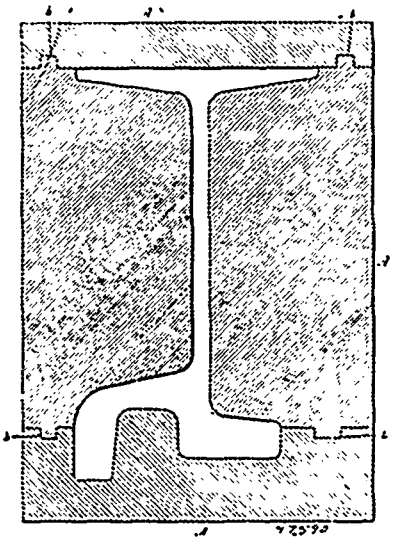
Fig. 1



part movable independent of and at another period in unison with the other, and another valve for controlling the direct connection between the train-pipe and brake-cylinder, and holding the brake-cylinder constantly open, substantially as described. 4th. In a triple valve for fluid pressure brakes, the combination with the valve-chamber having connections with the auxiliary reservoir, brake-cylinder and train-pipe of two valves for controlling the admission of pressure from the auxiliary reservoir to the brake-cylinder and the exhaust from the brake-cylinder, another valve controlling the direct connection between the train-pipe and the brake-cylinder, and a single piston and connections with the three valves for moving them, substantially as described. 5th. The combination with the underlying valve S of the overlying two-part valve 10, 10^s, a yoke connected to one part of said two-part valve, and an operating piston connected to the yoke, substantially as described. 6th. The combination with the valve-chamber of a triple valve having openings leading to the train-pipe, auxiliary reservoir and brake-cylinder, of a valve S, adapted to place the train-pipe and brake-cylinder openings in direct connection and having a flange restricting the train-pipe opening leading to the valve-chamber, substantially as described. 7th. The combination with the valve-chamber of a triple valve having openings leading to the train-pipe, auxiliary reservoir and brake-cylinder, of a valve controlling the direct communication between the train-pipe and brake cylinder, an operating piston for said valve, a check-valve in the train-pipe and a finger movable independent of the operating piston for holding the check-valve from one of its seats, substantially as described. 8th. The combination with the valve-chamber of a triple valve having openings leading to the train-pipe, auxiliary reservoir and brake-cylinder, of valves controlling said openings, an operating piston for moving said valves, a valve in the train-pipe, and an automatically operative finger independent of the operating piston for holding the check-valve from one of its seats, substantially as described. 9th. The combination with the necessary valves controlling the train-pipe, auxiliary reservoir, and brake cylinder openings of a triple valve, of a valve in the train-pipe opening, and a piston independent of the triple valve exposed to the train-pipe pressure and auxiliary reservoir pressure having a finger for holding the valve from its seat, substantially as described. 10th. The combination with the necessary valves controlling the train-pipe, auxiliary reservoir and brake-cylinder openings of a triple valve, of a double seated check-valve controlling the train-pipe opening, a supplemental valve, also controlling said opening and a movable stop or finger for holding said supplemental valve from its seat at the desired time, substantially as described. 11th. The combination with the necessary valves controlling the direct communication between the train-pipe and brake-cylinder openings of a triple valve, of a double seated check-valve in the train-pipe opening, a supplemental valve and its seat carried by the double check-valve from its seat, substantially as described. 12th. In a triple valve for fluid pressure brakes, the combination of a valve controlling communication between the train-pipe and the auxiliary reservoir and the train pipe and the brake-cylinder, a double seated check-valve in said train-pipe, a finger movable independent of the triple valve for holding the check-valve from one of its seats and a piston connected with the finger one side of which piston is constantly exposed to the auxiliary reservoir pressure, substantially as described. 13th. In a triple valve for fluid pressure brakes, the combination with the triple valve controlling the communication between the train pipe and the brake-cylinder, of another and independently movable valve or piston opening a communication between the auxiliary reservoir and the brake-cylinder, substantially as described. 14th. The combination with the necessary valves controlling direct communication between the train-pipe and the brake cylinder openings of a triple valve, of a check-valve in the train-pipe opening, an independently movable piston and finger for holding the check-valve from its seat, and a passage between the auxiliary reservoir and the brake-cylinder controlled by said piston, substantially as described. 15th. In a triple valve for fluid pressure brakes, the combination of a valve seat in the train-pipe passage, a two-part valve adapted to said seat, and normally providing a minimum sized opening past such seat, and said two parts of the valve being separable to expose a maximum sized opening, substantially as described. 16th. In a triple valve for fluid pressure brakes, the combination of a valve seat in the train-pipe passage, a two-part valve adapted to said seat, and normally providing a minimum sized opening past such seat, and a movable finger for meeting one part of the valve and arresting its movement, while the other part of the valve moves onward, substantially as described. 17th. In a triple valve for fluid pressure brakes, the combination of a valve seat in the train-pipe passage, a two-part check valve adapted to said seat, a piston and its finger mounted independent of the triple valve and moved to obstruct one part of check-valve while the other part moves onward, substantially as described. 18th. In a triple valve for fluid pressure brakes, the combination of a valve seat in the train-pipe passage, a two-part valve, each of the two parts of which has one face of the other for its seat, and one of the parts being adapted to said valve seat, and the other part adapted to another valve seat, and means for arresting one part to permit separation of the other, substantially as described. 19th. In a triple valve for fluid pressure brakes, the combination of a recess in the train-pipe passage, having at each of its ends a valve seat, a two-part valve arranged within said recess, one part of which valve nearly fills the recess, and is provided with an opening through it, and the other part of which two-part valve normally closes such opening and means for arresting one part to permit separation of the other to expose such opening, substantially as described.

No. 47,590. Art of Dry Sand Moulding.

(*Art de mouler en sable sec.*)



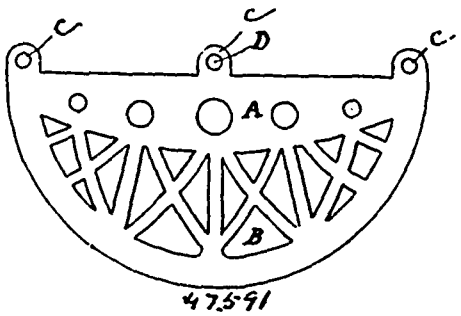
William Clark Wood, Brooklyn, New York, U.S.A., 4th December, 1894; 6 years.

Claim. 1st. The improvement in the art of dry-sand moulding hereinbefore specified which consists in forming a mould for a cast-steel railroad frog or the like, without pattern or flask, by the preliminarily shaping and baking separate from each other all those parts of the mould which form its matrical cavity, and mitering together the baked mould parts and completing the matrical cavity at each intersection by cutting operations. 2nd. The method of moulding railroad frogs and like track-castings which consists in preliminarily shaping and baking separate from each other mould-parts capable of use in common to form mould sections of a given rail pattern, and mitering together the dry sand mould parts so produced and completing the connection of their matrical recesses by cutting operations, substantially as hereinbefore specified. 3rd. The process of moulding a railroad frog or the like without pattern or flask which consists in preliminarily shaping all those parts of the mould which form the walls of the matrical cavity in separate and distinct sand-moulding boxes, each appropriate to mould parts in common of a given shape and dimensions in cross-section, baking the mould parts so preliminarily shaped, and mitering together the baked mould parts and connecting with each other the matrical cavities of the respective mould sections by cutting operations, substantially as hereinbefore specified. 4th. The method of forming dry sand moulds without patterns or flasks which consists in preliminarily shaping and baking separate mould parts each of uniform cross-section from end to end, assembling and cutting such parts to form the mould excepting its ends, and closing the ends of the mould with stoppers of suitable material, substantially as hereinbefore specified. 5th. The method

of moulding a railroad frog or crossing which consists in constructing the mould in three longitudinally divided sections each composed of dry sand mould parts, which jointly form the matrical cavity of the mould, and bringing said mould sections to the required angle in relation to each other by means of a templet, substantially as hereinbefore specified.

No. 47,591. Bracket for Saddlery.

(*Porte-harnais, selles, etc.*)

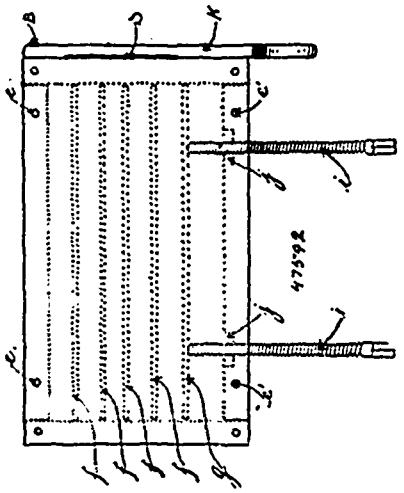


Francis Gourdeau, Ottawa, Ontario, Canada, 4th December, 1894; 6 years.

Claim.—1st. The art of making brackets for saddles and harness, which consists in cutting the material for the bracket, from sheet metal, perforating it to any desired pattern, and then bending it to the curve required. 2nd. As a new article of manufacture, a bracket made from sheet metal by cutting from it a portion of the desired shape and size, and perforating and bending said portion to a curve suitable for its purpose, substantially as set forth.

No. 47,592. Tobacco Press and Knife Combined.

(*Presse et couteau à tabac combinés.*)



Adjutor Menard, Montreal, Quebec, Canada, 4th December, 1894; 6 years.

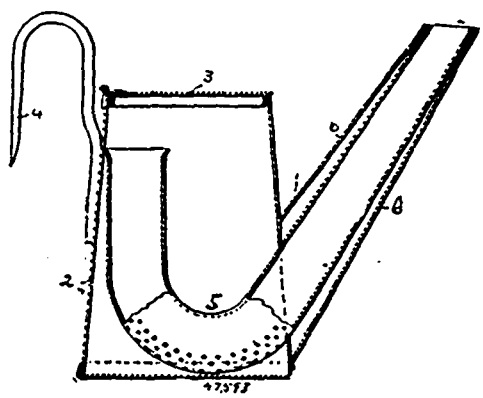
Résumé.—1° Une presse à tabac constituée par une boîte en bois ou en métal, dont le dessus *a*, le fond *b*, et les côtés c c, sont solidement assemblés, dont les côtés C et *d* peuvent être solidement fixés en place au moyen des chevilles *e e*^{1} *e*^{1}, l'un de ces côtés (désigné par la lettre C), étant pourvu des écrous *j j*, dans lesquels les vis *i i*, peuvent se mouvoir et pousser sur la planchette de fer *g*, qui, à son tour presse le tabac, séparé en palettes plus ou moins grosses par les planchettes *f f f*. 2° La combinaison de la presse ci-dessus décrite avec la planche K, munie du couteau S, qui le tout ensemble constitue la machine à couper le tabac, le tout tel que décrit et pour les fins indiquées.

No. 47,593. Miner's Lamp.

(*Lampe de sûreté pour mineurs.*)

William P. McMaster, Munhall, Pennsylvania, U.S.A., 4th December, 1894; 6 years.

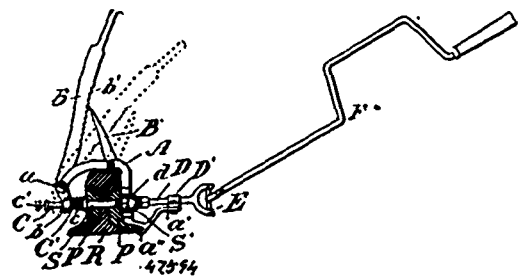
Claim.—1st. A miner's lamp, having a wick-tube extending within the lamp body and curved upwardly, said inner portion having perforations in the lower side of its bent portion, substantially as and for the purposes described. 2nd. A miner's lamp, having a wick-tube extending within the oil reservoir and bent upwardly therein, said tube having perforations in the lower side of its bent



portion, and an outer tube surrounding the outer portion of the wick-tube, substantially as and for the purposes described.

No. 47,594. Nut and Screw Tightening Machine.

(*Machine à serrer les noix et vis.*)



Ferdinand Phillippe Bruneau, Lyster Station, Quebec, Canada, 4th December, 1894; 6 years.

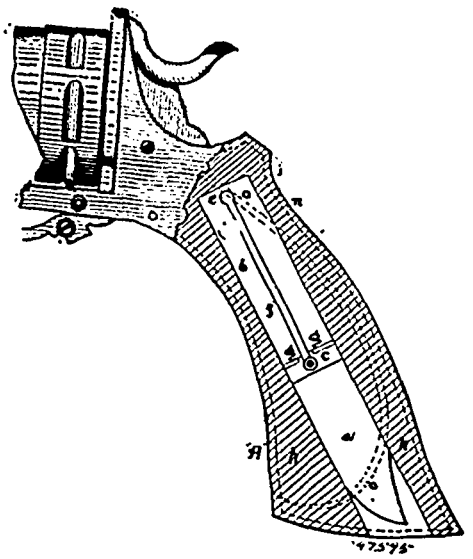
Claim.—1st. The combination of a jaw passing over and partly around any object desired to be bolted together and affording a pivot point above the bolt centre at one end and a projecting platform below the bolt centre at the other, a lever pivoted to the pivot end and having at its downward extending short arm a hub and ratchet-teeth at its upper end, a mandrel adapted to slide in the hub of said lever in a line with the bolt to be secured and carrying a chuck adapted to receive the bolt head, a spring between said chuck and hub pressing the two apart, a pawl pivoted to the upper part of the jaw and adapted to engage the teeth of the lever, a spindle journalled slidingly upon the platform of the jaw in line with the bolt to be secured and having a chuck adapted to receive and retain the nut to be secured and a brace connected to said spindle by a universal joint, substantially as set forth. 2nd. The combination of a clamp formed of a jaw adapted to partly surround an object to be bolted together and of a spring actuated mandrel with chuck in line with the bolt to be secured carried in a lever pivoted at the rear end of said jaw and a pawl pivoted to said jaw and adapted to engage said lever, a spindle journalled slidingly upon a projection of said clamp in line with the bolt to be secured and carrying a chuck adapted to receive and turn the nut and means of operating said spindle, substantially as set forth. 3rd. The combination of a jaw adapted to partly surround an object to be bolted together, a spring actuated mandrel with chuck in line with the bolt to be secured, a lever pivoted above the centre of the bolt in said jaw and carrying said chuck at its lower end and having ratchet-teeth at its upper end, a pawl pivoted in the top of said jaw adapted to engage the ratchet-teeth of the lever, a spindle journalled slidingly at the other side of the jaw opposite said mandrel upon a platform formed by said jaw below the centre of the bolt and carrying a chuck adapted to engage the nut, a brace or winch for turning said spindle and a universal joint connecting said spindle and brace, substantially as set forth.

No. 47,595. Revolver. (*Pistolet.*)

Ernst Paul, Wiesbaden, Prussia, Germany, 4th December, 1894; 6 years.

Claim.—1st. A combined thrust arm and hand firearm, comprising a butt-sheath, and a knife blade adapted to be held therein, substantially as described. 2nd. A combined arm, comprising a firearm, a butt adapted to receive a knife blade, and a spring held within the butt to act upon the blade, substantially as described. 3rd. A firearm, comprising a removable butt-sheath conforming to a section of said butt piece, and a knife held within said sheath, substantially as described. 4th. A sheath knife, adapted to fit the butt of a firearm comprising a casing *h*, blade *a*, *b*, having perfora-

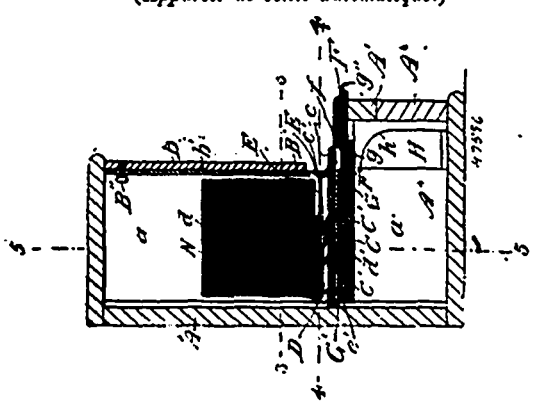
tions *d*, *e*, slot *f*, and stub *g*, a spring *k*, and a spanner pin *l*, substantially as described. 5th. A sheath knife, adapted to fit the butt of a firearm comprising a casing *h*, having socket h^1, and stub *i*, a



blade *a*, *b*, having a slot *d*, *e*, *f*, and stub *g*, a spring *k*, a spanner pin and a spring *m* to fit the socket h^1, and act upon the spanner, substantially as described.

No. 47,596. Automatic Vending Machine.

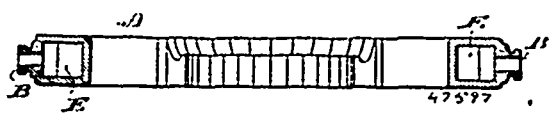
(*Appareil de vente automatique.*)



George Harper Bowie and John Charles Roger, both of Ottawa, Ontario, and Thomas Larkin, Montreal, Quebec, all in Canada, 4th December, 1894; 6 years.

Claim.—1st. In an automatic vending machine for newspapers and similar articles, the combination of a receptacle of the capacity to contain a pile of the articles, a platform upon which said pile will rest provided with an adhesive surface and downwardly extending projections and made of wedge shape and movable from rear to front, a rigid partition under said platform having slots through which the projections of the platform pass and carrying friction rollers upon which said platform travels, a lip hinged to said rigid bottom and connected by a pivoted link to said platform, an adjustable slot over said lip, a sliding bottom under said rigid bottom adapted to engage the projections of said platform and carrying another slide, a spring retracted slide in said sliding bottom a part of which projects in front of the receptacle, transverse registering slots in the rigid and sliding bottoms and slide adapted to pass a certain coin, a rib having a rounded front placed transversally under said slots and the lower part of the receptacle containing said rib and adapted to receive the coins, substantially as set forth. 2nd. In an automatic vending machine for newspapers and similar articles, the combination with a suitable receptacle adapted to hold a pile of the articles and receptacle below adapted to hold coins, of a platform having an adhesive upper surface and downward projections, a sliding bottom under said platform adapted to engage the downward projections of the same and to carry a slide, a spring retracted slide in said sliding bottom having a part projecting to afford a finger-hold, a slot formed between the lower edge of the front of the upper part of the receptacle and the lower projecting part opposite the top of said platform and adapted to pass the article to be delivered, registering slots in the top of said projecting part sliding bottom and slide and a rib under said registering slots extending partly forward and having a rounded upper front corner, substantially as set forth. 3rd. In an automatic vending machine for newspapers and similar articles, the combination of a casing consisting of an upper part adapted to receive a pile of said articles and allowing them to slide downwards and a lower part adapted to hold coins, a hinged door forming the front of said upper part but leaving a space at the bottom, a vertical slide on the inner face of said door, means of securing said slide, a cross-piece on the lower end of said slide forming the lower edge or lip of said door, adapting it to be lengthened or shortened, substantially as set forth. 4th. In an automatic vending machine for newspaper and similar articles, the combination with a suitable casing or receptacle of a rigid partition or bottom C secured thereto, links c^1 pivoted below the upper surface of said partition and working in limiting slots, friction rollers C^1 journalled in said links at the upper surface of said partition, a platform D having an adhesive upper surface and supported by said friction rollers and having pins or projections d^1, projecting downwardly, a sliding partition F below said rigid partition adapted to engage said downward projections, a slide G in said sliding partition projecting in front of the casing, a spring G^1, secured to said slide and at the rear of the casing and adapted to draw said slide rearwardly and said slides F and G provided with registering slots by means of which the two may be connected by the insertion of a suitable object, substantially as set forth. 5th. In an automatic vending machine for newspapers and similar articles, the combination with a suitable casing or receptacle of a rigid partition of bottom C secured thereto links c^1 pivoted below the upper surface of said partition and working in limited slots, friction rollers C^1 journalled in said links at the upper surface of said partition, couplings c^3 connecting said rollers, a coupling c^4 connecting one of said couplings c^3 with an outwardly moving lip, a lip E hinged to said bottom and having the coupling c^4 pivoted to it, a platform D adapted to move on said friction rollers and a link E^1 connecting said platform to said lip, substantially as set forth. 6th. In an automatic vending machine for newspapers and similar articles, the combination with a suitable casing or receptacle of a sliding partition F, a spring retracted slide G in said partition, registering transverse slots *f* and *g* in said slides and a rib H below said slots adapted to support an object inserted therein at first and then allowing it to pass down over its rounded front corner, substantially as set forth.

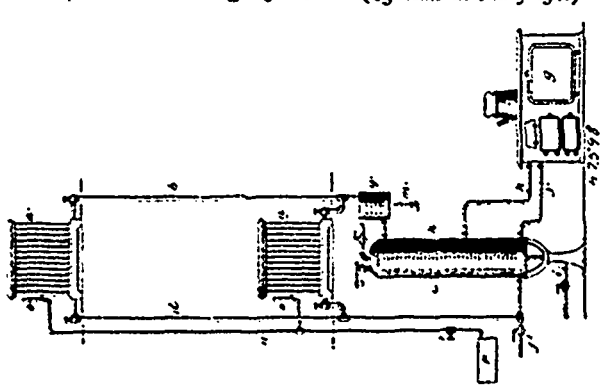
No. 47,597. Chill. (*Moule.*)



John Mathews, Milwaukee, Wisconsin, U.S.A., 4th December, 1894; 6 years.

Claim.—1st. A hollow chill having a vertical outer wall provided with a plurality of lateral nipples for connection with a water-supply system, a plurality of lateral nozzles leading from said wall intermediate of the nipples, and current-diverting projections on an inner vertical wall of the chill opposite said nipples, substantially as set forth. 2nd. A hollow chill having a vertical outer wall provided with a plurality of lateral inlets for water under pressure, a plurality of lateral outlets in said wall intermediate of the inlets, and triangular current diverting projections on a vertical inner wall of the chill opposite said inlets, substantially as set forth. 3rd. A hollow chill having a vertical outer wall provided with a plurality of lateral inlets for water under pressure, a plurality of lateral outlets in said wall intermediate of the inlets, and current diverting projections on a vertical inner wall of the chill opposite said inlets, substantially as set forth.

No. 47,598. Heating System. (*Système de chauffage.*)

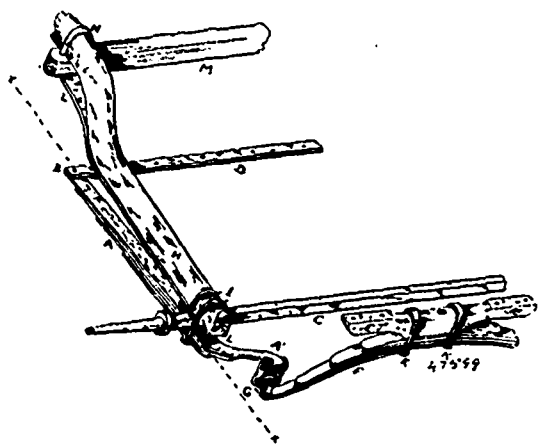


Andrew G. Paul, Boston, Massachusetts, U.S.A., 4th December, 1894; 6 years.

Claim.—1st. The combination, substantially as set forth, of a source of heat, a steam circulatory system including radiators and

the necessary connections, an intervening heating medium between the source of heat and the system, substantially as described, and a positive air exhauster connected with the system. 2nd. The combination, substantially as set forth, of a source of heat, a circulatory system including radiators and the necessary connections, and containing a limited quantity of the heating vehicle, an intervening heating medium between the source of heat and the system, substantially as described, and a positive air exhauster connected with the system. 3rd. The combination, substantially as set forth, of the heaters, and supply and return pipe of a heating system, a boiler or generating coil, an intervening heating medium for conveying heat to the boiler or coil, substantially as described, a tank or suitable device to support said heating medium in contact with the boiler or coil, an air pipe, and an exhauster for exhausting air through said air pipe. 4th. The combination with the heaters and supply and return pipe of a heating system, of a boiler or generating coil and an intervening heating medium for conveying heat to the boiler or coil, adapted to absorb and convey only a limited amount of heat, and a tank or suitable device to support said heating medium in contact with the boiler or coil, and an air pipe and exhauster for exhausting air through said air pipe, and a valve to control the passage of air through the air pipe, substantially as set forth. 5th. The combination with the heaters and supply and return pipe of a heating system, of the coil c, the tank *e*, the boiler *h*, the range *g*, and the connecting pipes *j*, *k* and *l*, and the air pipe *n*, provided with suitable valves and the exhauster *p*, substantially as set forth.

No. 47,599. Cart Spring. (*Ressort de charrette.*)

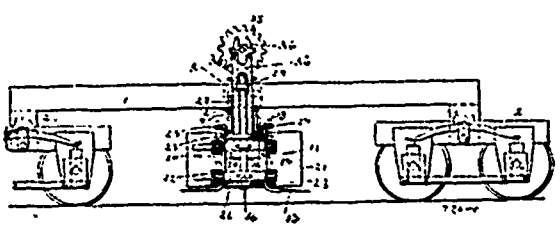


William Henry Robinson and Ambrose Robinson, both of Coldwater, Ontario, Canada, 4th December, 1894; 6 years.

Claim.—1st. In a road-cart, the combination of a specially formed side spring A, A, secured to the underside of cart axle C, as shown and for the purpose set forth. 2nd. In a road-cart, the combination of the rear of shaft H, with intermediate connections securing the side spring A, A, to the cart axle-tree, in the manner shown and for the purpose set forth. 3rd. In a road-cart, the combination of the side spring A, A, and bearing bar D and connection at B, as shown and for the purpose set forth. 4th. The combination in a road-cart of the rear of side spring A, A, with body spring F, in the manner shown, and for the purpose set forth. 5th. In a road-cart, the operative combination of the side spring A, A, shaft H, connections of these members with the axle-tree C, bearing-bar D, and combination between A and F, in the manner shown, and for the purpose set forth.

No. 47,600. Track Clearing Apparatus.

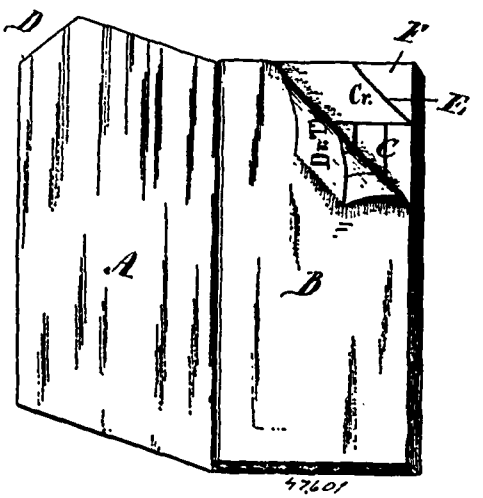
(*Appareil à nettoyer les voies de chemin de fer.*)



Alfred Ewart Trevithick, Montreal, Quebec, Canada, 5th December, 1894; 6 years.

Claim.—1st. In a track clearing apparatus, the combination with a suitable carriage, of a gathering device provided with a travelling shifter extending transversely beneath the carriage for the purpose set forth. 2nd. In a track clearing apparatus, the combination with a suitable carriage having transverse supporting guides, of a transverse gathering device with a travelling shifter, supported by and movable along said guides, for the purpose set forth. 3rd. In a track clearing apparatus, the combination with a suitable carriage having vertical guideways in its framing, of a transverse frame adjustable vertically in said guideways with means for adjusting and supporting same, and a gathering device provided with a travelling shifter extending transversely beneath the carriage and supported by said frame, for the purpose set forth. 4th. In a track clearing apparatus, the combination with a suitable carriage having vertical guideways in its framing, of a transverse frame furnishing supporting guides transversely of the carriage and being adjustable vertically in said guideways, with means for adjusting and supporting same, and a gathering device provided with a travelling shifter and supported by and movable along said guides for the purpose set forth.

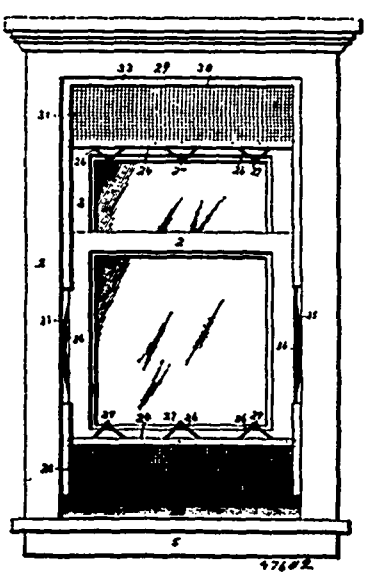
No. 47,601. Blank Book. (*Livre de blanc.*)



William B. Hubbard, Astabula, Ohio, U.S.A., 5th December, 1894; 6 years.

Claim.—A blank book having a portion of the cover removed or perforated and the leaves correspondingly perforated, whereby a definite portion of each leaf may be removed agreeing with the removed or perforated portion of the cover, as and for the purpose set forth.

No. 47,602. Window Screen. (*Store de fenêtre.*)



Charles W. Rodecker, Cherryvale, Kansas, U.S.A., 5th December, 1894; 6 years.

Claim.—1st. A roller for window screens, comprising a hollow cylindrical body portion, a rod extending longitudinally into said body-portion, a returning spring connected to the body portion and to the rod and surrounding the latter within the roller, and a number of brackets for the roller and rod, substantially as set forth. 2nd. A standard for window screen rollers having a recess and a pivoted guard extending across the recess, substantially as set forth.

3rd. A shield or guard for window screens, consisting of a flexible strip secured to the upper part of the window frame and extending outwardly over the screen roller, substantially as set forth. 4th. An attachment for window sashes, comprising a pair of segmental springs placed one within the other and secured to the sides of the sash, substantially as set forth. 5th. In a roller for screen windows, the combination, with a hollow cylindrical body portion 4, a rod 10 extending longitudinally in said body portion, and a spring spirally surrounding said rod and secured thereto at one end, of a cap 22 secured upon one end of the roller and having an inwardly extending flange at its outer end, a disc 12 mounted loosely upon the said rod 10 and bearing against the inner side of the cap 22, and against the inwardly extending flange thereof, and having inwardly extending flanges 13 adapted to engage recesses in the end of the body portion 4, and the annular shoulders 14 and 15, bearing upon the inner and outer sides of the disc 12, to retain said rod in its proper position longitudinally, substantially as set forth.

No. 47,603. Spring Chair Bottom.

(*Fonde à ressort pour chaisses.*)

FIG. 2.

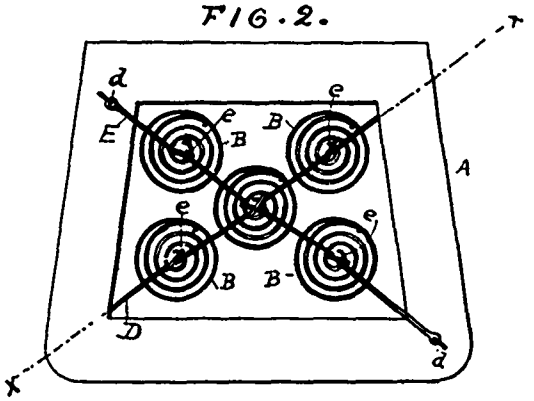
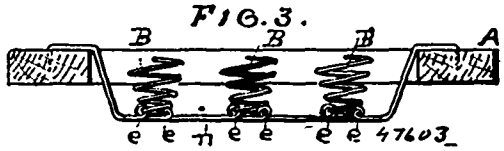


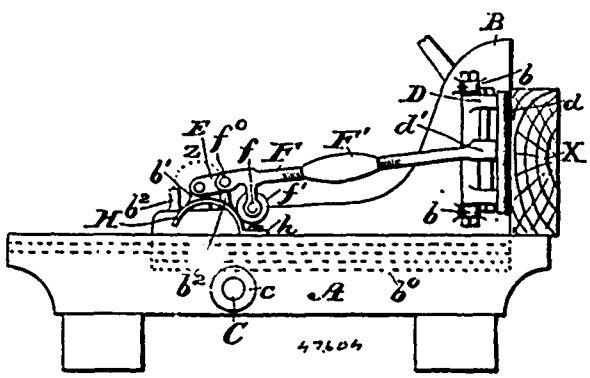
FIG. 3.



Roswell S. Judson and Frank Edmund, both of Matteawan, New York, U.S.A., 5th December, 1894; 6 years.

Claim.—1st. The combination with a frame, and a series of coil springs, of cross-wires for supporting the said springs secured at their ends to the said frame and having pairs of loops to receive opposite portions of the lower coils of the springs, each wire having a pair of loops at the point of crossing which loops are engaged by and embrace the lower coil of the centrally disposed spring to form a lock, substantially as set forth. 2nd. The combination with a frame and a series of coil springs, of crossed wires secured at their ends to the frame, and having pairs of loops to engage and embrace the lower coils of the springs at diametrically opposite points, and a net-work of cords connecting the upper ends of the springs together and to the said frame, substantially as set forth.

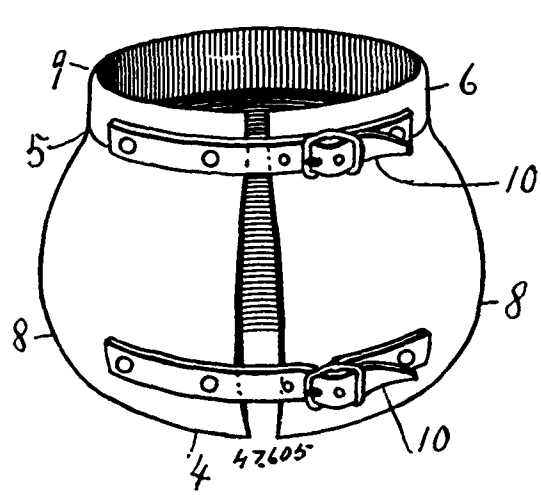
No. 47,604. Saw-Mill Carriage. (*Châssis de scieries.*)



John Dumoulin, Merinette, Wisconsin, U.S.A., 5th December, 1894; 6 years.

Claim.—1st. In a saw-mill set works organization having transverse knees, the combination of the knees and auxiliary supports for the cant, movably attached to said knees, substantially as described. 2nd. In a saw-mill set works organization having transverse knees and auxiliary supports for the cant attached to the knees and partaking of their motion, and means whereby said supports may be retired from their operative position, substantially as described. 3rd. In a saw-mill set works organization provided with transverse knees, the combination of the knees and auxiliary supports for the cant attached to and separately movable from said knees, and means for moving said supports towards and holding them against the saw-log, substantially as described. 4th. In a saw-mill carriage provided with transverse knees, the combination with supports separably movable from said knees, means for moving said knees and said supports across the saw-mill carriage simultaneously but independent of each other, and means for holding said supports against the saw-log, substantially as described. 5th. In a saw-mill carriage provided with transverse knees, the combination with supports separably movable from said knees, mechanism connected to both said supports and said knees and adapted to move the same across the saw-mill carriage simultaneously but independently of each other, substantially as described. 6th. In a saw-mill set works, the combination with the head block and knee, of wings hinged to the said knees and means for bracing the said wings firmly against the log, substantially as described. 7th. In saw-mill set works, the combination with the head blocks and knees and means for advancing and retiring the said knees upon the said head blocks, of wings hinged to each side of the said head blocks, and means for moving the said wings against the log as the knees advance, and for drawing the wings away from the log as the knees move backward, substantially as described. 8th. In saw-mill set works, the combination with the head blocks and knees, and means for advancing and retiring the said knees, of wings hinged to each side of the said knees, a frame pivoted to the rear end of the knees, connecting rods pivoted at one end to the said frame and at the other end to the said wings, and means for turning the said frame about its pivots, to move the said wings to or from the log, substantially as described. 9th. In saw-mill set works, the combination with the said blocks and knees, and means for advancing and retiring the said knees, of wings hinged to each side of the said knees, a frame pivoted to the rear end of the knees, connecting rods pivoted at one end to the said frame and at the other end to the said wings, rollers journalled upon the said connecting rods, and convex cam surfaces upon the said head blocks, over which the said rollers will roll as the knees are advanced or retired, and thus turn the frame about its pivots to move the said wings against or away from the log, substantially as described. 10th. In a saw-mill set works, the combination with the head blocks and knees, and means for advancing and retiring the said knees, of wings hinged to each side of the said knees, a frame pivoted to the rear end of the knees, connecting rods pivoted at one end to the said frame and at the other end to the said wings, rollers journalled upon the said connecting rods, and springs having convex cam surfaces upon the head blocks, over which the said rollers will roll as the knees are advanced or retired, and thus turn the frame about its pivots to move the said wings against or away from the log, substantially as described.

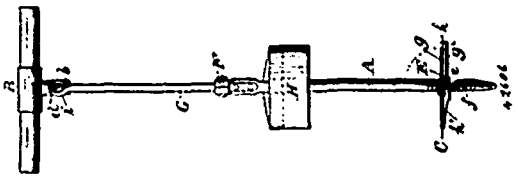
No. 47,605. Boot for Horses. (*Botte de cheval.*)



Frederick H. Wood, Cleveland, Ohio, U.S.A., 5th December, 1894; 6 years.

Claim.—1st. As a new article of manufacture, a boot for horses consisting of flexible material having a substantially spherical body and a narrow collar about its top tapered to an edge, and straps to fasten the boot on the leg, as set forth. 2nd. As a new article of manufacture, a horse boot of india-rubber having a fibrous binding material imbedded therein and a narrow collar about its top and tapered toward both top and bottom edges, and straps to fasten the boot on the leg, substantially as set forth.

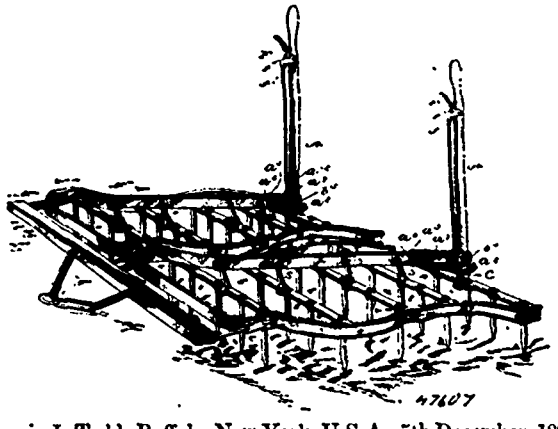
No. 47,606. Earth Auger. (*Sonde à trépan.*)



Frank Luther Ream, Tolnea, and Charles Fred Herbolsheimer, Ladd, both of Illinois, U.S.A., 5th December, 1894; 6 years.

Claim.—1st. In a boring apparatus, the combination of the central tube or rod provided with air inlet and outlet holes, the handle secured to the top of said central tube, provided with a sleeve having a hook formed thereon, the auger consisting of a circular cutting plate having an opening, and a hinged valve, and the adjustable clamp on said central tube, with adjustable cylinder having an arm, and a hand lever, the lower end of which is secured to said arm and its upper end secured loosely in the adjustable clamp, substantially as described. 2nd. In a boring apparatus, the combination of the central tube or rod provided with inlet and outlet holes, the handle secured to the top of said central tube provided with a sleeve having a hook formed thereon, the auger consisting of a circular plate having an opening therein, one side of said opening extending beyond the circumference of the said plate and bent downward and upward to form a horizontal and vertical cutting edge, the hinged valve for closing the opening in the circular plate, with the adjustable cylinder having an arm, and hand lever, the lower end of which is secured to said arm and its upper end is provided with a ring, and the adjustable clamp embracing the central tube and hand lever to afford means for holding said hand lever at any desired height, substantially as described.

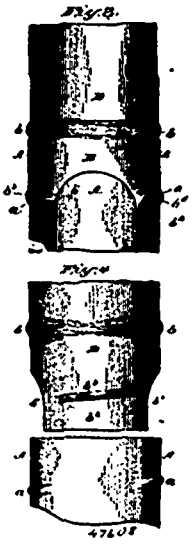
No. 47,607. Lever and Lock. (*Levier et serrure.*)



Marquis J. Todd, Buffalo, New York, U.S.A., 5th December, 1894; 6 years.

Claim.—1st. A lever composed of two parts or members, and means for adjustably bringing said parts or members at any angle, as set forth. 2nd. A lever composed of two parts or members, having toothed or serrated contact portions, and means for binding the same at an angle, as set forth. 3rd. A lever composed of two parts or members having coincident apertures and serrated or toothed contact faces, and a nutted bolt passed through said apertures holding said faces together at any angle, substantially as set forth. 4th. A lever composed of two parts or members having circular overlapping portions provided with central apertures and inner serrations or teeth, hollow sleeves projecting from said portions, and the nutted belt passed through said sleeves, substantially as set forth. 5th. A lever having a spring-pressed pawl pivoted to one side thereof and capable of moving at right angles thereto and a hand-lever fulcrumed on said former lever and connected with said pawl, substantially as set forth. 6th. The combination with a lever having a hole in one side thereof, and a locking arm having a series of holes movable on a line with said former hole, a spring-pressed pawl engaging said locking arm, a hand lever fulcrumed on said former lever, and connections between said hand-lever and said pawl, substially as set forth. 7th. The combination with a lever having a hollow hub projecting therefrom, and a locking arm engaging said hub, and having a series of holes therein, of a pawl pivoted on said lever and having a hooked end working in said hub, a sliding hook engaging said pawl, and a hand-lever fulcrumed on said former lever and connected to said sliding hook, substantially as set forth. 8th. The combination of a lever, a connecting strap attached thereto, having a forward loose support, a locking arm connected to said connecting strap, and mechanism for holding said locking-arm to said lever, substantially as set forth. 9th. The combination of a lever having a hollow hub, a connecting strap attached to said lever and having a forward loose support, a locking arm or strap connected to said connecting strap and engaging said hub, a spring-pressed pawl for holding said locking arm, and means for operating said pawl, substantially as set forth. 10th. The combination of a lever having a hollow hub, a connecting strap attached to said lever and having a forward loose support, a locking arm or strap, connected to said connecting strap and engaging said hub, a spring-pressed pawl for holding said locking arm, a sliding hook engaging said pawl and having a curved or radial loop, a hand lever fulcrumed on said former lever, and the lifting rod connecting said hand-lever to said loop, substantially as set forth. 11th. The combination of the lever, having a lower loop provided with parallel sides, an inner hub extending from one of said sides, the connecting strap, the locking arm having a series of holes and a side recess in which said hub fits, a spring-pressed pawl pivoted to one of said sides and having a hooked end designed to enter said hub and a coincident hole in said locking arm and means for operating said pawl, substantially as set forth. 12th. The combination of the lever composed of two parts or members, means for adjustably connecting said parts or members, the connecting strap loosely connected to one of said parts or members, and the locking arm attached to said connecting strap and adjustably held to the other one of said parts or members, whereby said former part or member can be moved independent of the other part or member, substantially as set forth. 13th. The combination of a lever, a connecting strap, and a yielding locking arm connected to said lever, as set forth. 14th. The combination of a lever, a connecting strap, a locking arm, a yielding connection, and mechanism for holding said locking arm to said lever, as set forth. 15th. The combination with the lever, and the connecting strap, of the locking arm connected at one end to said connecting strap, and a spring or yielding bearing for said end, as set forth. 16th. The combination with the lever, and the connecting strap, of the locking arm having a looped end through which said strap is passed, forward and rearward stops and a spring on said strap between said looped end and one of said stops, substantially as set forth.

No. 47,608. Stove Pipe Joint. (*Joint de tuyau de poêle.*)



Josiah Edward Smiley, Smiley, Ohio, U.S.A., 5th December, 1894; 6 years.

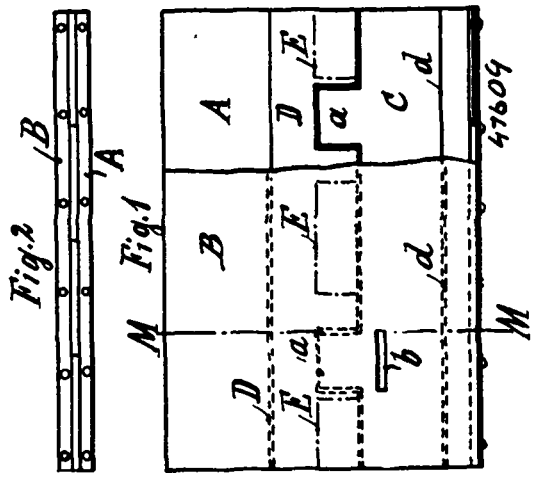
Claim.—1st. The combination of two pipe sections, one of which has notches in one end and intervening elastic portions provided with spiral ribs, the other section having corresponding spiral grooves arranged oppositely as shown and described. 2nd. The combination, with a pipe section having spiral grooves arranged oppositely, in its receiving end, and a section provided with a stop-collar, and having notches in its entering end and spiral ribs formed on the elastic portions that intervene said notches, the arrangement of said grooves and ribs coinciding, as shown and described, so that when the two pipe sections are connected, the ribbed portions of the entering section enter the plain spaces which intervene the grooves of the other section, and then upon rotating one section the ribs and grooves interlock, as specified. 3rd. As an improved article of manufacture, a stove pipe section having its entering end provided with spiral grooves which are separated by plain spaces, and its entering end provided with spiral ribs and intervening notches, the said grooves and ribs coinciding in arrangement and pitch, as specified.

No. 47,609. Desk. (*Pupitre.*)

Johann Ernest Hermann Kunze, Leipzig, Germany, 5th December, 1894; 6 years.

Claim.—A folding desk comprising in its construction two plates

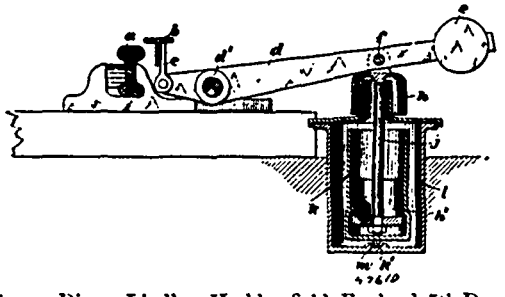
A and B hinged together, a stay C, provided with lugs or studs *a*,



and a holding device adapted to secure the supporting surface at various angles of inclination, substantially as described.

No. 47,610. Treadle for Railway Signalling.

(*Pédale pour signal de chemin de fer.*)

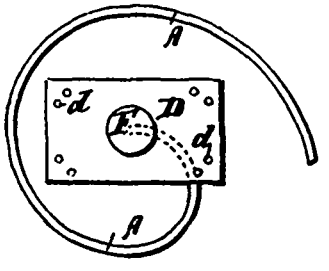


John George Dixon, Lindley, Huddersfield, England, 5th December, 1894; 6 years.

Claim—1st. For use in connection with treadle bars for railway signalling, an oscillating cylinder, substantially as described and illustrated. 2nd. In railway signalling, the combination of a treadle bar, transverse lever and oscillating cylinder operatively connected, substantially as described and illustrated.

No. 47,611. Fastening for Ladies' Hats.

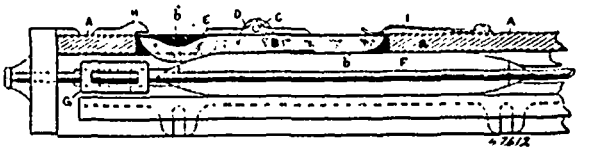
(*Attache pour chapeaux de dames.*)



Edward Henry Andrews, Dover, England, 5th December, 1894; 6 years.

Claim.—1st. An improved fastening for ladies' hats, formed from a single length of wire, one end of which is vertical forming a shank, and the main part is bent into a curve or spiral form adapted to engage with the hair, and a plate fixed on the underside of the hat formed with a hole through which the shank passes and serving to carry the fastener, substantially as and for the purposes specified. 2nd. In an improved fastening for ladies' hats, the combination with a plate stitched on the underside of the hat having a perforation, of a single length of wire bent to form a vertical shank passing through the said plate and hat material, and a spiral at the lower side extending slightly downwards from the centre and adapted to engage with the hair, and a collar on the side of the shank retained by the plate, substantially as and for the purposes specified. 3rd. In an improved fastening for ladies' hats, the combination with a single length of wire bent into a vertical shank forming a pivot and a spiral at the lower side, and a finger-piece and collar on the said shank, of two plates stitched to the underside of the hat retaining the collar between them, substantially as and for the purposes specified.

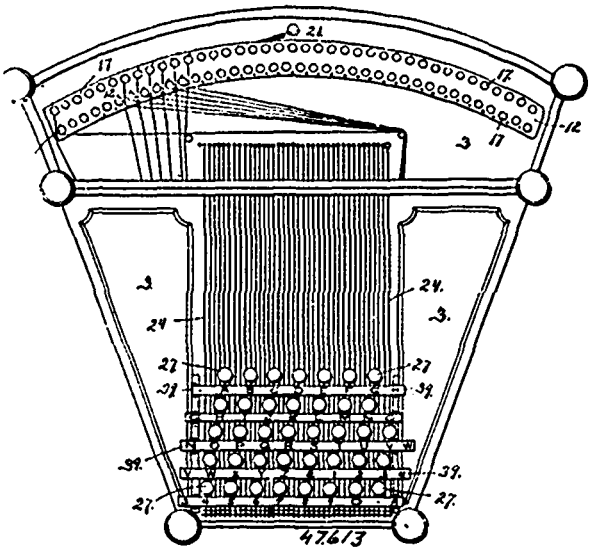
No. 47,612. Shuttle Binder. (*Lieuse de navettes.*)



John Bannister, Mexico, Republic of Mexico, 6th December, 1894; 6 years.

Claim.—1st. A binder in the form of a bell crank or lever having limited travel, one arm of which is placed in the path of the shuttle, the other where any pressure on the first mentioned arm will cause it to press laterally against the shuttle, substantially as described. 2nd. The binder B pivoted on the box A at C, and having a further arm b^1 dipping more or less into the path of the shuttle and another or inner arm b having a face almost or quite normally in contact with the path of the shuttle, in combination with the shuttle F, substantially as described. 3rd. A binder B pivoted near its centre on box A, and having the arm b^1 nearest the end of the box projecting into the path of the shuttle and formed so as to present no sudden stop to the shuttle, and an arm b placed so as to press laterally against the shuttle on the other arm being forced backward. 4th. The combination of the shuttle E, pivoted binder B, and stop H, substantially as and for the purposes described. 5th. The combination of the spring I, the pivoted binder B, and shuttle F, substantially as described.

No. 47,613. Signal Telegraphy. (*Signal télégraphique.*)

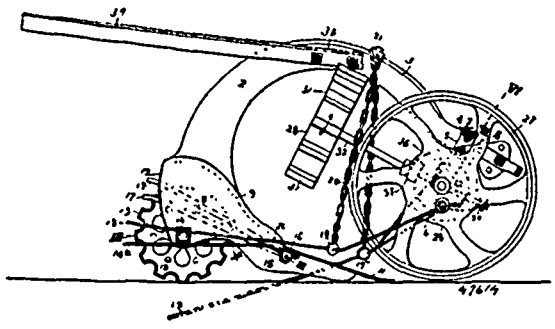


Claudius Victor Boughton, Buffalo, New York, U.S.A., 6th December, 1894; 6 years.

Claim.—1st. A signal telegraph consisting essentially of a number of electric lamps arranged in a continuous line, a bed-plate of non-conducting material, a series of metal strips insulated from each other in such bed-plate and each electrically connected with a separate lamp, and contacting plates each operated by a separate key to complete the circuits, through different groups of the metal strips, to light the lamps necessary to produce the character desired. 2nd. A signal telegraph consisting essentially of a number of electric lamps arranged in a continuous line, a bed-plate of non-conducting material, a series of spring-pressed metal strips, insulated from each other in such bed-plate and each electrically connected with a separate lamp and spring-pressed contacting plates operated by separate keys to complete the circuits through different groups of the spring-pressed metal strips to light the lamps necessary to produce the character desired. 3rd. A signal telegraph consisting essentially of a number of electric lamps arranged in a continuous line, a bed-plate of non-conducting material, a series of spring-pressed metal strips insulated from each other in such bed-plate and each electrically connected with a separate lamp and spring-pressed levers carrying adjustable contacting plates operated by separate keys to complete the circuits through different groups of the spring-pressed metal strips, to light the lamps necessary to produce the character desired. 4th. In a signal telegraph, substantially as described, the combination with contacting plates operated by separate keys of

the metal strips insulated from each other in a non-conducting bed-plate and projecting alternately from opposite sides of the bed-plate the alternate projecting ends having wires secured thereto which are separately connected to marked binding posts, substantially as and for the purpose stated. 5th. In a signal telegraph, substantially as described, the combination with contacting plates operated by separate keys of the spring-pressed metal strips insulated from each other in a non-conducting bed-plate and projecting alternately from opposite sides of the bed-plate, the alternate projecting ends on each side being separately connected to separate rows of marked binding posts, substantially as and for the purpose stated. 6th. In a signal telegraph the set of levers 24 pivoted upon a common rod 23 and the contacting plates 28 with projections and pivoted to each lever by the link 29, and adjusted by the levelling device 30, the whole being operated by the rods 26 and keys 27, substantially as shown and described. 7th. In a signal telegraph the combination with contacting plates operated by separate keys of the bed-plate 4, having the spring-pressed insulated metal strips 7, projecting alternately from opposite sides of the bed-plates, the projecting ends of the left side being connected by the wires 18 with the outer row of marked binding posts on the plate 12 and the projecting ends of the right side being connected by the wires 19 with the inner row of marked binding posts on the same plate, corresponding rows of binding posts on the under side connecting each metal strip 7 to a separate lamp in the standard, substantially as shown and described.

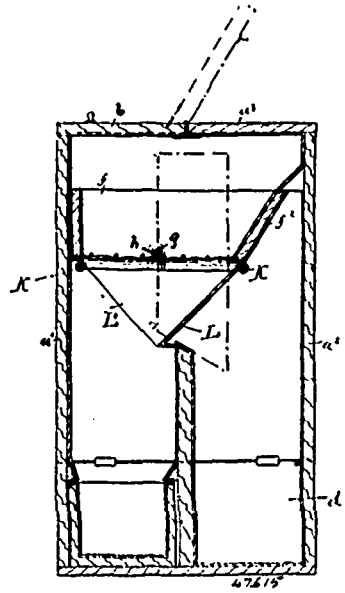
No. 47,614. Potato Digger. (*Arrache-patates*)



George Wragg, Sharpbury, Pennsylvania, U.S.A., 6th December, 1894; 6 years.

Claim.—1st. A potato digging machine composed of a main frame or body portion provided with a plough-share, the frame being rigidly secured to a forward carriage mounted on supporting wheels and furnished with harness attaching mechanism, and provided with a housing at the back carrying a traction wheel arranged in the manner and for the purpose described, the entire frame composing a rigid and inflexible structure, as set forth. 2nd. A potato digging machine composed of a main frame or body portion provided with a plough-share attached to a lower forward extension thereof and having mounted in a housing in the back portion a traction designed to impart motion to a series of sifting rods through intervening arms secured to the inner ends of shafts carrying said rods, substantially as set forth. 3rd. A potato digging machine, composed of a main frame or body portion, provided with a plough-share and having mounted in its back portion a traction wheel designed to impart motion to a series of sifting rods, and secondary sets of sifting rods, located substantially on the same horizontal plane as the first but outside thereof, secured in a bar which is supported by a chain, depending from a cross-arm attached to the main frame, one pair of which rods, on each side, extend forward and are secured to a crack pin in the wheel of the forward carriage, substantially as shown and described. 4th. In a potato digging machine composed of a main frame or body portion provided with a plough-share and automatically controlled sifting rods and a forward carriage mounted on supporting wheels, an adjustable connection therewith consisting of an upwardly extending post secured to the axle of the carriage having slots at right angles to similar slots in the forward neck of the main frame, through which pass bolts by which the parts may be adjustably secured, substantially for the purpose described. 5th. In a potato digging machine, a pair of wheels for removing tops and weeds, mounted on the ends of shafts carried in bearings secured to the carriage axle and rotated by bevel gears integral with or secured to the carriage wheels. 6th. In a potato digging machine provided with a plough-share, a pair of wheels for removing tops or weeds, provided in their periphery with bars or strips, mounted on the ends of shafts revolving in opposite directions, having bearing secured to the axle and provided with bevel wheels in mesh with similar wheels integral with or secured to the carriage wheels, substantially as shown and described. 7th. In a potato digging machine, composed of a main frame or body portion provided with a plough-share, and a forward carriage supported on wheels, a pair of wheels for removing tops or weeds, located above the plough-share, mounted on the ends of shafts carried in bearings secured to the axle and designed to be revolved in opposite directions by suitable gearing, said wheels being adjustable in their relation to the plough-share by means of an adjustable connection between the main frame and the carriage, substantially shown and described.

No. 47,615. Ash Sifter. (*Crible à cendres.*)

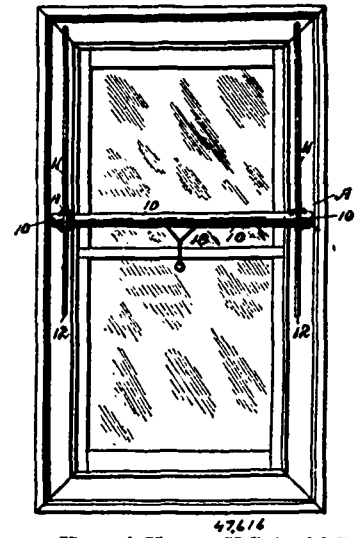


Charles James William Davies, Montreal, Quebec, Canada, 6th December, 1894; 6 years.

Claim—In an ash sifter, the combination of the enclosing casing having covered inlet and outlet and its lower portion divided into two chambers 1 and 2 by partition *e*, a dumping sieve pivotally mounted in the upper space of the casing above such partition, and an inclined chute or guide-plate movable with said sieve when rotated for the purpose set forth.

No. 47,616. Window Shade Hanger.

(*Porte-rideau de fenêtre.*)

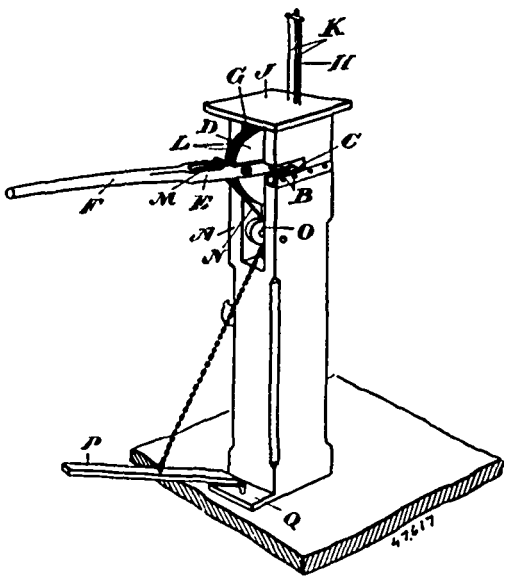


John A. Thompson, Howard, Kansas, U.S.A., 6th December, 1894; 6 years.

Claim.—1st. In a window shade hanger, a guide capable of being secured to the window frame and of extending vertically thereon, and a curtain shade carriage mounted on the guide and having a frictional contact therewith, said contact being such as to render the carriage capable of standing at any position on the guide and of being adjusted thereon by the application of positive pressure, substantially as described. 2nd. A window shade hanger, comprising guides adapted to be secured to a window frame, a bar provided with shade roller bearings, and slides fitted to slide on the guides and to be adjustably held thereon by frictional contact, said guides being provided with loops between which and the guides the ends of the said bar project, substantially as described. 3rd. As an improvement in window shade hangers, the combination with guides

adapted for attachment to the window frame, of connected loops arranged at angles to each other and having sliding engagement with the guides, and a bar adapted to receive the shade roller bearings, which bar is passed through the loops, supported thereby and held in engagement with the guides, as and for the purpose specified. 4th. As an improvement in window shade hangers, guides adapted for attachment to the window frame, slides comprising loops arranged at angles to each other and provided with eyes at their junction, through which the guides pass, and a slat or bar adapted to carry the bearings of the shade roller, which slat or bar is passed through the loops of the slides and held in frictional engagement with the guides, as and for the purpose specified.

No. 47,617. Pump. (*Pompe.*)

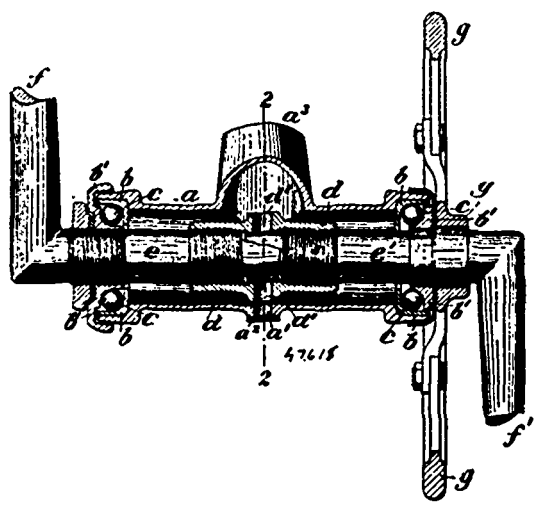


S. W. Armstrong, Toronto, Ontario, Canada, 6th December, 1894; 6 years.

Claim.—1st. In a pump the combination of the top casing, a lifting wheel journalled in the top casing, a lever connected to and adapted to operate the lifting wheel, the sucker rods, and a connection between the lifting wheel and the sucker rods, substantially as specified. 2nd. In a pump the combination of a top casing, a lifting wheel journalled in the top casing, a lever connected to and adapted to operate the lifting wheel, the sucker rods, a connection between the lifting wheel and the sucker rods whereby the sucker rods are lifted perpendicularly, and a connection between the lifting wheel and the sucker rods whereby the sucker rods are lowered perpendicularly after completing the upward stroke, substantially as specified. 3rd. In a pump the combination of the top casing, a lifting wheel journalled in the top casing, roller bearings for the said wheel, a lever connected to the lifting wheel free of contact with the axle, the sucker rods, a chain or cable connected to the sucker rods and to the lifting wheel whereby the sucker rods can be moved perpendicularly during the movement of the lifting wheel, and a second chain or cable connected to the sucker rods whereby they can be moved downward after they have completed their upward stroke, substantially as specified. 4th. In a pump the combination of the top casing, a lifting wheel journalled in the top casing, roller bearings for the said wheel, a lever connected to the lifting wheel free of contact with the axle, the sucker rods, a chain or cable connected to the sucker rods and to the lifting wheel whereby the sucker rods can be moved perpendicularly during the movement of the lifting wheel, a second chain or cable connected to the sucker rods whereby they can be moved downward after they have completed their upward stroke, a foot lever, and a chain connected to the lifting wheel and to the foot lever, substantially as specified. 5th. In a pump the combination of the top casing, a lifting wheel journalled in the top casing, roller bearings for the lifting wheel, a lever connected to the lifting wheel free of contact with its axle, the sucker rods, a lifting chain or cable connected to the sucker rods and to the lifting wheel above its axle, a chain or cable connected to the top of the sucker rods and to the lifting wheel below its axle, a foot lever pivotally connected to the pump, a treadle chain one end of which is connected to the lifting wheel whilst its opposite end is connected to the foot lever, and an idler around which passes the treadle chain, substantially as specified. 6th. In a pump the combination of the top casing, a lifting wheel journalled within the top casing, roller bearings for the lifting wheel, a lever to operate the lifting wheel supplemental lifting wheels journalled within the top casing, the sucker rod, a lifting chain connected to the sucker rod and to the lowermost one of the supplemental lifting wheels, a lifting chain connected to the said lowermost lifting wheel and to the intermediate lifting wheel, a lifting chain connected to the intermediate lifting wheel and to the main lifting wheel whereby the sucker rod is raised perpendicularly lowering chains or cables connected to the top of the sucker rod and to the main lifting wheel whereby the sucker rod is lowered after having completed its upward stroke, substantially as specified. 7th. In a pump the combination of a top casing, a lifting wheel journalled within the top casing, roller bearings for the lifting wheel, a lever to operate the lifting wheel, supplemental lifting wheel journalled within the top casing, the sucker rod, a lifting chain connected to the sucker rod and to the lowermost one of the supplemental lifting wheels, a lifting chain connected to the said lowermost lifting wheel and to the intermediate lifting wheel, a lifting chain connected to the intermediate lifting wheel and to the main lifting wheel whereby the sucker rod is raised perpendicularly, lowering chains or cables connected to the top of the sucker rod and to the main lifting wheel, whereby the sucker rod is lowered after having completed its upward stroke, a foot lever pivotally connected to the pump, a chain or cable one end of which is connected to the lifting wheel and the opposite end connected to the foot lever, and an idler to hold the chain in place, substantially as specified.

No. 47,618. Crank-Shaft for Velocipede.

(*Arbre de manivelle pour vélocipèdes.*)

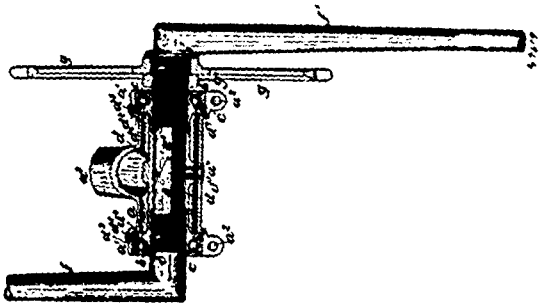


The Pope Manufacturing Company, Portland, Maine, assignee of Flavel Sweeten Luther, Hartford, Connecticut, all in the U.S.A., 6th December, 1894; 6 years.

Claim.—1st. The combination with suitable bearings, of a crank-shaft comprising two parts, and of holding means for detachably holding together said parts of the crank-shaft, said parts of the crank-shaft, and holding means being so constructed that the parts of the crank-shaft may be brought together or separated by rotation relatively to said holding means, and a power transmitting device operated by said shaft, said holding means being connected to said shaft independently of said power transmitting device, substantially as set forth. 2nd. The combination of a crank-shaft comprising two parts adapted to be locked so as to be held together rotatively, a power transmitting device upon said shaft, means for holding together said parts of the crank-shaft whereby two parts of the crank-shaft may be brought together or separated by rotation relatively to said holding means, said holding means being connected to said parts of the crank-shaft independently of the power transmitting device, substantially as set forth. 3rd. The combination of a crank-shaft comprising two parts, each of said parts having a crank arm integral therewith, and said parts adapted to be locked so as to be held together rotatively, and each of said parts containing a screw threaded portion, the screw thread of one part being in the reverse direction to that of the other part, and a holding device provided with reverse threads engaging with the threads of both parts of the crank-shaft, and a power transmitting device operated by said crank-shaft independently of said holding device, substantially as set forth. 4th. The combination of a crank-shaft comprising two interlocking parts so shaped at their interlocking joint that the parts when interlocked are compelled to rotate together, each of said parts containing a screw threaded portion, the screw thread of one part being in the reverse direction to that of the other part, and suitable bearings for said crank-shaft, and a holding sleeve provided with reverse threads engaging with the threads of both parts of said shaft, and a power transmitting device operated by said crank-shaft independently of said reversely threaded holding sleeve, substantially as set forth. 5th. The combination of a crank-shaft comprising two interlocking parts so shaped at their interlocking joint that the two parts when interlocked are compelled to rotate together, each of said parts of the crank-shaft having a crank-arm, integral therewith, and each of said parts containing a screw threaded portion, the screw thread of one part being in the reverse direction to

that of the other part, and suitable bearings for said crank-shaft, and a bracket supporting the same, and a holding sleeve provided with reverse threads engaging with the threads of both said parts of the crank-shaft, said sleeve being located within said bracket and provided with means whereby it may be grasped by a tool inserted through an opening in said bracket, and a power transmitting device operated by said crank-shaft independently of said reversely threaded holding sleeve, substantially as set forth. 6th. The combination of a crank-shaft comprising two parts adapted to be locked so as to be held together relatively, each of said parts containing a screw threaded portion, the screw thread of one part being in the reverse direction to that of the other part, and suitable bearings for said crank-shaft, and a bracket supporting the same, and a holding sleeve provided with reverse threads engaging with the threads of both of said parts of the crank-shaft, said sleeve being located within said crank-shaft bracket and provided with one or more sockets, whereby it may be held from rotation by a pin inserted through an opening in said bracket and bearing against the sides of said opening in the bracket, substantially as set forth.

No. 47,619. Crank-shaft and Bearings for Velocipedes. (*Arbre de manivelle et coussinet pour vélocipèdes.*)

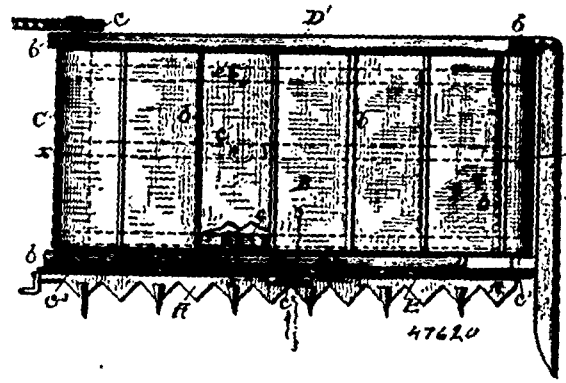


The Pope Manufacturing Company, Portland Maine, assignee of James Samuel Copeland, Hartford, Connecticut, all in the U.S. A., 6th December, 1894; 6 years.

Claim.—1st. The combination of a crank-shaft comprising two parts, and means for detachably holding together said parts of the crank-shaft whereby the parts of the crank-shaft may be brought together or separated by rotation relatively to said holding means, and journals for said crank-shaft upon said holding means, and suitable bearings for said journals, substantially as set forth. 2nd, The combination of a crank-shaft, comprising two parts adapted to be locked so as to be held together relatively, a power transmitting device upon said shaft, and means for holding together said parts of the crank-shaft whereby the parts of the crank-shaft may be brought together or separated by rotation relatively to said holding means, said holding means being connected to the crank-shaft independently of the power transmitting device, and journals for said crank-shaft upon said holding means, and suitable bearings for said journals, substantially as set forth. 3rd. The combination of a crank-shaft comprising two parts, each of said parts having a crank-arm integral therewith, and said parts adapted to be locked so as to be held together rotatively, and each of said parts containing a screw threaded portion, the screw thread of one part being in the reverse direction to that of the other part, and a holding device provided with reverse threads engaging with the threads of both parts of the crank-shaft, and journals for the crank-shaft upon said holding device, and suitable bearings for said journals, and a power transmitting device operated by said crank-shaft independently of said holding devices, substantially as set forth. 4th. The combination of a crank-shaft comprising two interlocking parts so shaped at their interlocking joint that the parts when interlocked are compelled to rotate together, each of said parts containing a screw threaded portion, the screw thread of one part being in the reverse direction to that of the other part, and a reversely threaded journal sleeve for the crank-shaft engaging with the threads of both parts of the shaft, and suitable bearings for said sleeve, substantially as set forth. 5th. The combination of a crank-shaft comprising two interlocking parts so shaped at their interlocking joint that the parts when interlocked are compelled to rotate together each of said parts containing a screw threaded portion, the screw thread of the right hand part being in a right hand direction, and that of the left part in a left hand direction, and a reversely threaded journal sleeve for the crank-shaft engaging with the threads of both parts of the crank-shaft, and suitable bearings for said sleeve, and a power transmitting device operated by said crank-shaft independently of said journal sleeve, substantially as set forth. 6th. The combination of a crank-shaft comprising two parts adapted to be locked so as to be held together rotatively, each of said parts containing a screw threaded portion, the screw thread of one part being in the reverse direction to that of the other part, a crank-shaft bracket, removable bearing rings adjustably screwed into the ends of said bracket, a journal sleeve, and bearing balls located between said journal sleeve and the bearing rings, said journal sleeve being reversely threaded and engaging with the threads of both parts of the crank-shaft, and a power transmitting device operated by said crank-shaft independently of said journal sleeve, substantially as set forth. 7th. The combination of the crank-shaft comprising the two reversely threaded parts c and c^1, and crank-arms integral therewith, the reversely threaded journal sleeve d, engaging with both parts of the crank-shaft, a power transmitting wheel secured upon one of the parts of the crank-shaft, the crank-shaft bracket a, having split ends a^1, and oiling openings d^2, the bearing rings b, adjustably screwed into the ends a^1, of the crank-shaft bracket, and clamping devices for tightening the ends a^1, upon said bearing rings, the bearing balls c, between said bearing rings, and the journals upon the sleeve d, and the washers d^4, located in recesses at the inner ends of the bearing rings b, substantially as set forth. 8th. The combination of a crank-shaft, the crank-shaft bracket a, having split ends a^1, and oiling openings d^2, the removable bearing rings b, adjustably screwed into the ends a^1, of the crank-shaft bracket, and clamping devices for tightening the ends a^1, upon said bearing rings, journal cones upon said crank-shaft, and bearing balls located between said journal cones and bearing rings, inclined conical surfaces or tables upon said journal cones sloping towards the bearings, and the washers d^4, located in recesses at the inner ends of the bearings b, substantially as set forth.

No. 47,620. Straw Evener for Grain Binders.

(*Appareil à niveler la paille pour lieuses à grain.*)

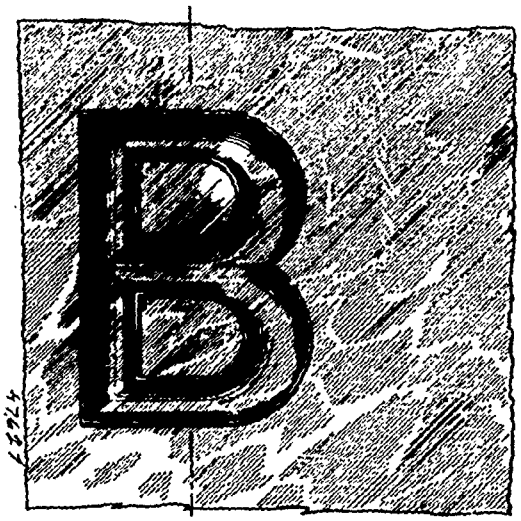


Frank Celestin Almont, and Walter B. Stevens, both of Sibley, Iowa, U.S.A., 6th December, 1894; 6 years.

Claim.—1st. The combination with the sickle and horizontal travelling apron in a self-binding harvester, of a separate vibrating evener bar for the grain straws, arranged in horizontal position, but in a vertical plane parallel with and between the sickle and apron, guides for controlling the motion attached to front frame bar, and a loose drag connection with the sickle, substantially as and for the purpose described. 2nd. The combination with the sickle and horizontal travelling apron in a self-binding harvester, of a separate vibrating evener bar for the grain straws arranged between the sickle and apron and having teeth upon its upper edge and inclined slots c^2, c^2, at its ends, means for imparting a longitudinally vibrating motion, and flanged rollers c^3, c^3, attached to the front of the frame bar and arranged in the inclined slots for causing the bar to descend on the backward movement and rise on the forward movement, substantially as and for the purpose described. 3rd. The combination with the sickle and horizontal travelling apron in a self-binding harvester, of a toothed evener bar arranged between the same and means for vibrating it, the said evener bar having guide slots c^2, with vertical extensions c^3, to permit the evener bar to descend to an inoperative position, substantially as and for the purpose described. 4th. The combination with the sickle and horizontal travelling apron in a self-binding harvester, of a toothed evener bar arranged between the same, and having both a longitudinally reciprocating and an up and down motion, and a loose drag connection between the sickle and evener bar arranged as described to both impart the reciprocating motion and permit the up and down motion, substantially as and for the purpose described. 5th. The combination with the sickle and horizontal apron with distending and actuating rollers in a self-binding harvester, of a toothed evener bar arranged in vertical plane between the sickle and apron and having inclined slots embracing guide rollers and provided with a vertical slot c, on its under side, and an arm connected to the sickle and having an anti-friction roller arranged in the vertical slot of the evener bar, substantially as and for the purpose described. 6th. The combination with the sickle and horizontal apron in a self-binding harvester, of the toothed evener bar E, having inclined slots c^2, with vertical extensions c^3, and having also slot c^1 in its lower edge, the detachable arm c^2 with dove-tail seat and anti-friction rollers, and the under cut or dove-tail keeper c^4 fixed to the sickle, substantially as and for the purpose described.

No. 47,621. Letters for Signs, Etc.

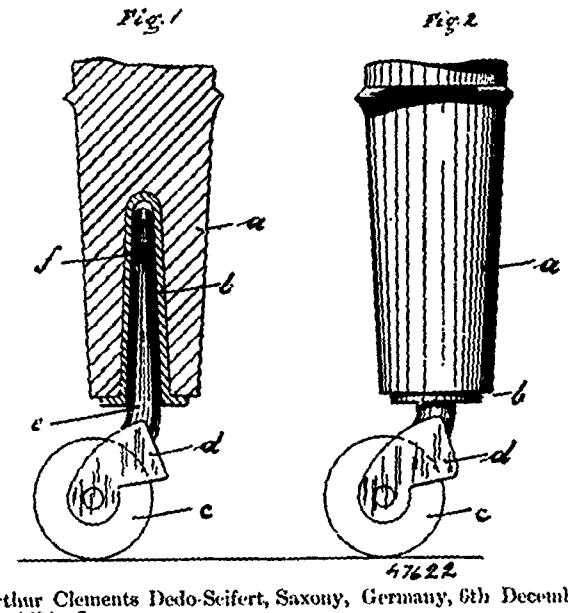
(*Lettres pour enseignes, etc.*)



Ernest Böhm, Barnsbury and John Burchell, North Finchley, both of Middlesex, England, 6th December, 1894; 6 years.

Claim.—The hereinbefore described improved letter made of clear glass, semi-circular more or less in cross section and painted on the concave side the said paint being subsequently burnt into the glass.

No. 47,622. Furniture Caster. (*Roulettes pour meubles.*)



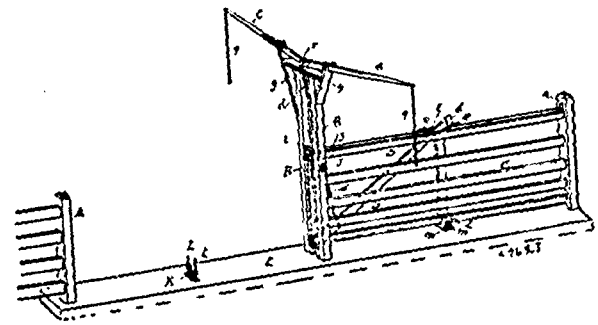
Arthur Clements Dedo-Seifert, Saxony, Germany, 6th December, 1894; 6 years.

Claim.—The improvements in furniture casters consisting in a conical sheath *b* with or without an annular groove *x* fixed in the foot or base *a* of the article of furniture, a conical shank *c* connected with the caster holder *b* and having a groove provided with a movable ring of larger diameter than the shank, thus allowing the caster while being free to revolve, to be taken off or put on again at any time without the use of tools and preventing the splitting of the foot or base of the piece of furniture to which it is attached, all substantially as hereinbefore described and shown.

No. 47,623. Gate. (*Barrière.*)

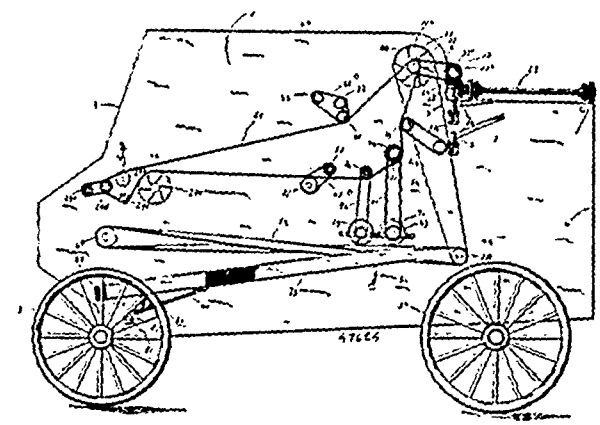
Henry Withey, Hastings, Michigan, U.S.A., 6th December, 1894; 6 years.

Claim.—1st. The combination with, a sliding gate, and mechanism for operating the same, of rollers for supporting the opposite ends of the gate and a central roller arranged midway between the two, said rollers being independently vertically adjustable, substantially as described and for the purpose specified. 2nd. The combination, with a sliding gate, and its operating mechanism, of vertically adjustable supporting rollers K, journalled in uprights *m, m*, provided with outwardly projecting forked flanges m^1, m^1, adapted to engage guide rods L, L, substantially as described. 3rd. In a sliding gate, the combination, with the gate proper, of the post B, and the slat I, the latter being adjustably secured to said post



by means of the slots *i, i* in the slat, and the bolts J, said slat I also carrying the gate supporting roller H at the bottom, and the hook bracket *f* at the top adapted to catch over the top slat of the gate and hold the gate in position. 4th. In a sliding gate, the combination with the gate proper, of the end posts A, A^1, the central posts B, the vertically adjustable rollers K between the end posts and the middle post B, substantially as described.

No. 47,624. Thrashing Machine. (*Machine à battre.*)



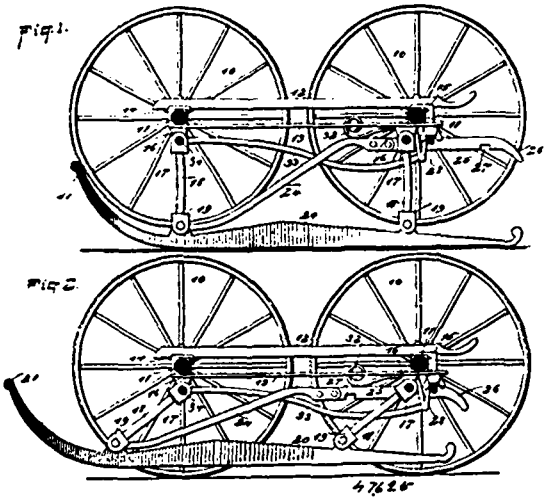
David Nathaniel Long, La Salle, New York, U.S.A., 6th December, 1894; 6 years.

Claim.—1st. In a thrashing machine, an endless carrier frame hinged to the side of the machine so as to be capable of adjustment laterally from side to side, an endless feed carrier mounted in said frame, and means for operating it, connected with the machine, substantially as described. 2nd. In a thrashing machine, an endless carrier frame hinged to the side of the machine so as to be capable of being adjusted laterally from side to side, an endless feed carrier apron mounted on wheels or rollers in said frame, and means for operating it, connected with the machine, in combination with a similar carrier frame and endless carrier a removable arm connecting the two together and a removable chain gearing for transmitting motion one to the other, whereby a series of carrier frames may be put together and all receive their movements from the first carrier, substantially as described. 3rd. In a thrashing machine, the combination of two endless feed carriers mounted in supporting frames, means for transmitting motion from the machine to one, and means substantially as above described, for connecting one to the other so as to be movable laterally and vertically thereon. 4th. In a thrashing machine an endless feed carrier mounted in a supporting frame, in combination with another feed carrier mounted in a supporting frame, an arm connecting one with the other so that one may swing vertically thereon, means for driving them, and means for securing one at any point it may be adjusted on the other, substantially as described. 5th. In a thrashing machine, a grain feeder consisting of an endless carrier feed attached to the frame of the machine, means for operating the endless carrier, and a series of endless carrier feeding devices connected with the first endless carrier feed, and means substantially as above described for transmitting motion from one endless carrier to the other throughout the series, substantially as and for the purposes described. 6th. In a thrashing machine, the combination with the hand cutters, the endless carrier apron and means for operating it, of a series of backwardly inclined teeth connected with the endless carrier that moves under the cutters, as and for the purposes described. 7th. In a thrashing machine, the combination of a side feeding apparatus connected with the side of the machine

means for operating it, and a direct feeding apparatus adapted to move lengthwise of the machine but with a greater speed than the side feeding apparatus, and means for operating the direct feeding apparatus, substantially as described. 8th. In a thrashing machine, the combination with an endless carrier apron for carrying the grain forward of a double screw conveyer mounted transversely over the feed apron, in suitable boxes in the frame of the machine, for the purpose of spreading the grain each way from the centre, substantially as described. 9th. In a thrashing machine, the combination with a feeding mechanism having backwardly inclined teeth, of a picker roller mounted directly above it, means for operating the feeding mechanism, and means for operating the picker at a greater speed than the feeding mechanism, substantially as and for the purposes described. 10th. In a thrashing machine, the combination with the feeding mechanism for carrying the grain to the thrashing cylinder, and the feeding rollers, and means for operating them, with a pivoted swing rake in close proximity to the feeding rollers, to regulate the supply of grain to said rollers, substantially as described. 11th. In a thrashing machine, the combination with the grain feeding mechanism and thrashing cylinder of two compression feed rollers mounted in boxes on the machine and running at a slower speed than the thrashing cylinder, for the purpose of holding the grain so the thrashing cylinder teeth cannot tear it away until the length of the straw has passed through the rollers, substantially as described. 12th. In a thrashing machine, the combination with a grain feeding mechanism and thrashing cylinder, of two compression feed rollers mounted in boxes on the machine and means for operating them, springs for forcing said rollers together and means for adjusting the force of said springs, for the purposes described. 13th. In a thrashing machine, the combination with a grain feeding mechanism and a thrashing cylinder, of two longitudinally corrugated compression rollers, and means for keeping said rollers together with a yielding force, for the purpose described. 14th. In a thrashing machine, a thrashing cylinder consisting of an alternating series of longitudinally grooved bars, and toothed bars, and means substantially as above described for securing them to the cylinder heads, as above set forth. 15th. In a thrashing machine, the combination of a thrashing cylinder provided with thrashing teeth, a concave below the thrashing cylinder also provided with thrashing teeth, and an elevator belt mounted on an incline on supporting rollers at the head and foot, an upper and lower series of communicating grain pockets on said elevator belt, each upper pocket having a front inclined opening, whereby the grain as it is thrown rearward by the thrashing cylinder, is caught by the upper pockets and from thence transferred to the pockets below, substantially as described. 16th. In a thrashing machine, the combination of an elevator belt supported on rollers, an upper and lower communicating series of pockets on said belt, the upper pockets each having a forwardly inclined plate adapted to catch and deflect the grain downward into the lower pockets as it comes from the thrashing cylinder, and a supporting roller under the head of the elevator belt to lift up at that point so as to bring the pockets into proper position for dumping their grain, chaff and tailings, substantially as described. 17th. In a thrashing machine, the combination with the elevator belt and means for giving it its proper motion, of an upper and lower communicating series of pockets, the lower series of pockets being of angular form so the top will be narrower than at the bottom and will thereby retain the grain longer than the upper pockets, substantially as and for the purpose described. 18th. In a thrashing machine, a thrashing cylinder consisting of an alternating series of longitudinally grooved bars and toothed bars of cast metal, the thrashing teeth and grooved portions being formed in one piece with each bar, and means substantially as above described for securing them to the cylinder heads, as above set forth. 19th. In a thrashing machine, a thrashing cylinder consisting of an alternating series of longitudinally grooved bars, in combination with openings in which the longitudinally grooved bars are secured, and have openings, between which the toothed bars are secured by set screws, substantially as described. 20th. In a thrashing machine, a thrashing cylinder consisting of an alternating series of longitudinally grooved bars and toothed bars, the front sides of the longitudinally grooved bars being nearer the centre than the back, and thereby present a wedge-shaped beating and rubbing surface, and means substantially as above described for connecting said bars with the cylinder heads. 21st. In a thrashing machine, the combination with the two compression rollers of two rollers mounted in boxes in front of the compression rollers having a slower motion, and in an opposite direction from the motion of the cylinder, whereby they hold the straw up to and between the cylinder teeth so as to secure a whipping action on the grain, and allow the released grain to pass out between the rollers in front of the compression rollers, substantially as described. 22nd. In a thrashing machine, the combination with the thrashing cylinder of a series of toothless concave bars extending lengthwise of the cylinder and partly surrounding it so as to hold the straw to the cylinder teeth, said bars set apart so as to leave openings between them to allow as much grain as possible to pass through before it reaches the teeth in the concave bars below them, and thereby avoid the breaking of the grain. 23rd. In a thrashing machine, the combination with thrashing cylinder of a series of toothless concave bars extending lengthwise of the cylinder and partly surrounding it, each bar having on one side a series of projecting teeth which tend to hold the straw to the cylinder, but allow the grain to be thrown through between them, substantially as described. 24th. In a thrashing machine, the combination with the thrashing cylinder of a series of concave bars secured to the concave side pieces, and extending lengthwise of the cylinder and partly around its face, each bar having a sharpe edge extending lengthwise on its upper side and an angular portion extending outward and downward at the bottom, substantially as described. 25th. In a thrashing machine, the combination with the thrashing cylinder of a series of concave bars pivoted to the sides of the concave, and extending lengthwise of the cylinder, and means for adjusting said bars, substantially as described. 26th. In a thrashing machine, the combination with a thrashing cylinder of a series of concave bars pivoted to the concave sides, and provided with backwardly inclined teeth extending in between the cylinder teeth, and means for adjusting said teeth to or from the cylinder between its teeth, substantially as described. 27th. In a thrashing machine, the combination with the thrashing cylinder of curved concave side supporting frames secured to the inner sides of the machine and extending nearly around the thrashing cylinder, of a series of bars secured to the concave supporting frames and extending lengthwise of the cylinder, and parallel with and apart from each other, for the purpose of holding the straw up to the cylinder as it is passing through and also for allowing the grain to pass through, substantially as described. 28th. In a thrashing machine, the combination with the thrashing cylinder, of curved concaved side supporting bars secured to the inner sides of the machine, a series of rollers, and parallel bars extending lengthwise of the cylinder and a series of inclined grate bars, all carried by said concave supporting bars extending nearly around the thrashing cylinder, for the purposes described. 29th. In a thrashing machine, the combination with the thrashing cylinder of a corrugated roller having its lower side above and near where the straw is discharged from the thrashing cylinder and having its lower face adapted to run in an opposite direction from the face of the thrashing cylinder next to it, for preventing the straw from winding around the cylinder, substantially as described. 30th. In a thrashing machine, a suction fan mounted on a shaft within the machine and having the straw inlet eccentric to the fan shaft, the largest portion of the inlet opening being nearer the outlet to give a more free exit to the straw, substantially as described. 31st. In a thrashing machine, the combination with the shaft upon which the suction fan is mounted, of two arms secured to the shaft near the end opposite the fan inlet opening and having their free ends extend, substantially parallel with the shaft to or near the inlet opening for the purposes, substantially as described. 32nd. In a thrashing machine, a suction fan inclosed within a straw chamber having an opening for air in a line with the adjustable grain boards, in combination with rollers which carry the straw into the straw chamber and close the opening against air, between the partition 91, and the top of the straw chamber, so that the bulk of the air is forced to pass through the opening 93, substantially as described. 33rd. In a thrashing machine, the combination with the straw chamber of an adjustable side deflecting board, for directing the straw to the fan, substantially as described. 34th. In a thrashing machine, the combination with the tailings cross conveyor, of a tailings shaking conveyor provided with a corrugated bottom, sections of which are perforated, substantially as and for the purposes described. 35th. In a thrashing machine, the combination with the tailings cross conveyor of a tailings shaking conveyor, consisting of a conveying tube inclining downward and provided with a corrugated bottom, sections of which are perforated, means substantially as above described for shaking the conveyor for the purposes of carrying the tailings back to the elevator belt, substantially as described. 36th. In a thrashing machine, a combined shaking screen and conveyor, consisting of a conveying tube having a corrugated bottom extending its entire length adapting it to operate on an incline, and having alternate sections of its bottom perforated, and means for giving it a longitudinal shaking movement, substantially as described. 37th. In a thrashing machine, a suction fan practically or wholly inclosed within the straw chamber except an opening back of the grain shelves, whereby a blast of air is caused to pass through the grain shelves for cleaning the grain and sufficient air suction is provided for carrying the straw through the fan, substantially as described. 38th. In a thrashing machine, the combination with the mechanism for carrying the grain to the thrashing cylinder and from that to the elevator belt, of a means for hulling the tailings and separating the grain therefrom, and a shaking conveyer and screen combined for separating the grain therefrom, and a shaking conveyer and screen combined for separating the grain from the tailings and carrying what is left to the elevator belt, substantially as described. 39th. In a thrashing machine, the combination of an elevator belt supported on rollers and carrying a series of pockets, and a supporting roller under the head of the elevator belt to lift the belt up at that point so as to bring the pockets into proper position for dumping their grain, chaff and tailings, substantially as described. 40th. In a thrashing machine, the combination of an elevator belt supported on rollers and carrying pockets, and a supporting roller of irregular form under the head of the elevator belt to lift the belt up at that point so as to invert and shake the pockets and dump the grain chaff and tailings, substantially as described. 41st. In a thrashing machine, the combination of an elevator belt supported on rollers, and a supporting roller of irregular form under the head of the elevator belt to hold

it up at that point and invert it and shake the grain therefrom, substantially as described. 42nd. In a thrashing machine, the combination of an elevator belt mounted on supporting rollers, a compressing roller mounted in bearings in the sides of the machine, and near the head of the elevator belt and held toward said belt and a spring force, means for operating the elevator belt and compressing roller at an equal rate of speed, and a fan picker mounted in bearings over the head of the elevator back of the compressing roller and adapted to run at a higher speed than the elevator belt or compressing roller, whereby the straw is held back sufficiently to allow the picket to tear the straws apart and separate the remaining grain therefrom, substantially as described. 43rd. In a thrashing machine, a band cutter having the cutters set at an angle to the direction of their movement each way from the centre for the purpose of spreading the grain, substantially as described. 44th. In a thrashing machine, the combination with the shaft upon which the fan is mounted of two arms secured to the shaft near the end opposite the fan inlet opening and extending toward the same, and a series of teeth inclining toward the fan on said arms, as and for the purposes described. 45th. In a thrashing machine, the combination with an inclosing straw chamber having an opening back of the grain shelves, a suction fan having its inlet in said straw chamber, and feed rollers covering the opening in the straw chamber, where the straw enters, for the purpose of carrying the straw in and excluding the air, and thereby cause a stronger blast of air through the grain shelves, substantially as described. 46th. In a thrashing machine, the combination with a suction fan having its inlet opening within the straw chamber, feed rollers at the upper side of said chamber for carrying in the straw, and a picker roller for loosening up the straw as it comes from the feed rollers and throwing it to the fan, substantially as described. 47th. In a thrashing machine, the combination with the suction fan and blades, of a solid disc on one side of the blades, and a wide fan at the back of the opposite side of each blade, for preventing the air and straw from entering immediately back of the fan blades and thereby prevent it from breaking in passing through and out of the fan. 48th In a thrashing machine, the combination with the suction fan and blades, of a solid disc on one side of the blades, a wide fan at the back of each blade at its opposite side and a narrow fan in front of the wide fan, substantially as described. 49th. In a thrashing machine, a suction fan provided with a series of fan blades united to a solid disc on one side, each fan blade having on its outer side next to the inlet opening a protecting fan extending backward and forward of each blade, substantially as described. 50th. In a thrashing machine, the combination with the pivoted board 2^k, of an opening 1^m, at the bottom of the machine, for the purposes described. 51st. In a thrashing machine, a series of pivoted adjustable grain shelves, being capable of adjustment so as to cause the grain to move from either side, a fan for drawing a blast of air through said shelves for separating the screenings and tailings from the grain, and means for receiving the grain and carrying it off.

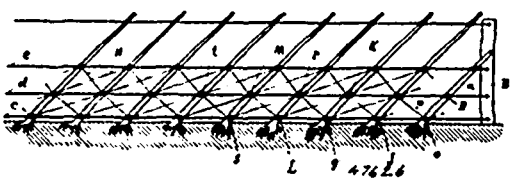
No. 47,625. Running Attachment for Wheeled Vehicles. (*Patin pour voitures à roue.*)



Walter J. Le Barron, Barre, Vermont, U.S.A., 6th December, 1894; 6 years.

Claim.—1st. The combination with the running gear of a vehicle, of reach rods or bars detachably secured to the opposite ends of the axles, hangers pivotally suspended from the supporting bars, runners pivotally connected to the hangers, a guide member secured to the rear axle, a slide bar pivotally connected at the front end to the front hanger, and having a horizontally disposed handle portion longitudinally movable on the said guide, and means for holding such bar in a locked position on the guide, all substantially as shown and described. 2nd. The combination, with the running gear of a vehicle, of detachable reach rods or supporting bars secured to opposite ends of the axles, hangers suspended from the supporting bars near opposite ends, runners pivoted to the hangers, cross braces connecting the hangers, a pendent slotted clip on the rear axle, a slide bar held to move in the clip, connecting rods extending from the slide bar to the runners, and a spring attached to the clip and projecting forward, for locking the slide bar to the clip, substantially as described.

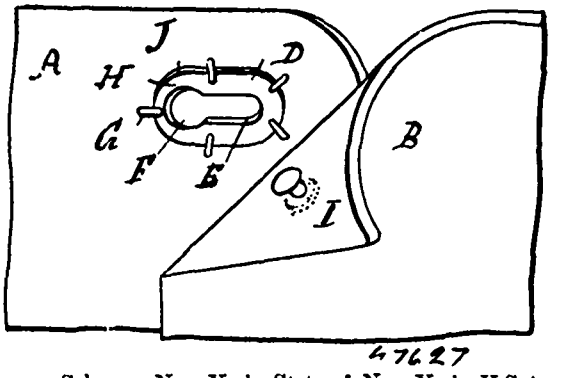
No. 47,626. Lattice Hedge Fence. (*Clôture en haie.*)



Wesley Young, Daton, Ohio, U.S.A., 6th December, 1894; 6 years.

Claim. 1st. A fence formed by inclining the stems of a series of plants in a hedge row, and securing them in that position by line wires, and a lattice formed of wires secured to fastenings driven into the plant stems, substantially as specified. 2nd. A fastening for a lattice hedge fence, formed of the staple D, having a neck and head, substantially as specified.

No. 47,627. Garment Clasp. (*Agrafe de vêtement.*)



Solomon Schwarz, New York, State of New York, U.S.A., 7th December, 1894; 6 years.

Claim.—1st. In a clasp, the combination of a plate secured at its edges and having a slot with an enlarged portion at its end to thereby form a receiving pocket and a headed stud or post adapted to engage the said plate and be held within the said pocket, substantially as described. 2nd. In a clasp, the combination of a plate having a slot therein with an enlargement at one end thereof and a deflection at the inner end of the same and a headed stud or post adapted to engage the said slot, substantially as described. 3rd. In a clasp, the combination of a plate having a slot therein with an enlargement thereof at one end of the same and a contraction of said slot adjacent to said enlargement, said plate being deflected or bent downwardly at its rear end, and secured around its edge to form a receiving pocket, and a headed stud or post adapted to engage the said slot, substantially as and for the purposes described. 4th. In a garment clasp, the combination of a plate forming a keeper comprising an inner bent portion having a key hole slot therein, an inner preliminary bend at an outward angle adjacent to the enlarged end of said key-hole slot and an outer secondary bend slightly in advance of the termination of said slot, and a headed stud adapted to engage the said slot, substantially as described. 5th. In a garment clasp, the combination of a keeper having a key-hole slot therein and formed of a double plate, the bend of said double plate having a slot therein to remove the metal, for the purposes specified, and a stud adapted to engage the said key-hole slot, substantially as described.

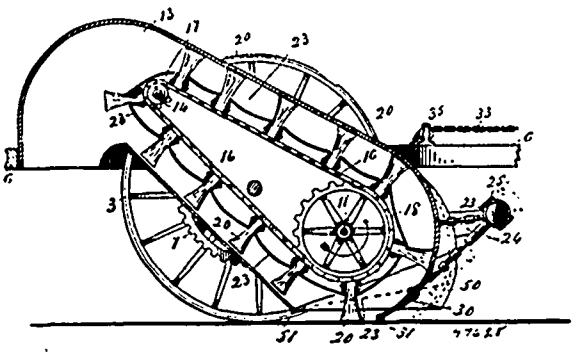
No. 47,628. Street Sweeper.

(*Appareil pour balayer les rues.*)

John C. Slawson, Indianapolis, Indiana, U.S.A., 7th December, 1894; 6 years.

Claim.—1st. In a street sweeper, sweeping and elevating mechanism consisting of a series of brushes with flexible aprons between such brushes and secured to them only, substantially as shown and described. 2nd. In a street sweeping machine, the combination of a brush casing swung from an axle thereof, a main shaft in the lower part, and a countershaft in the rear end of such casing, a series of sweeping and elevating brushes operated in such casing

about such shafts, and flexible aprons detachably secured between such brushes to form pockets, whereby the refuse is swept, elevated and discharged at the rear of the machine, substantially as shown and described. 3rd. In a street sweeping machine, a brush casing, an endless chain carried on sprockets mounted on shafts having bearings in the walls of the same, removable brushes fitting in sockets formed on the links of such chains, with detachable flexible aprons between such brushes forming pockets for receiving the



refuse collected, substantially as shown and described. 4th. In a street sweeper, the combination of a frame mounted upon suitable wheels, a brush casing swung from the rear axle thereof, brushes carried upon chains connecting sprocket-wheels mounted on countershafts having bearings in such casing and operated through the rear wheels, flexible aprons between such brushes, and an apron formed on the front wall of the casing composed of sections hinged together and automatically movable towards and from the brushes as the latter revolve, substantially as shown and described. 5th. In a street sweeping machine, a brush casing supported from the rear axle thereof, shafts having bearings in the walls of such casing, sprocket-wheels mounted thereon, chains connecting such wheels and carrying detachable brushes, flexible aprons of any suitable material between such brushes forming pockets for elevating the material swept up, in combination with an apron composed of sections forming the front wall of the casing, and connected to eccentrics or similar mechanism, whereby the apron is oscillated or moved towards and from the brushes, and in front of the same, substantially as shown and described. 6th. In a street sweeping machine, a framework supported upon the wheels, the rear ones being loose on their axle, gear-wheels rigidly mounted on such axles and adapted to be thrown into connection with the main wheels, an enclosing casing swung from the rear axle of the machine, its forward end adjustably supported, a shaft passing through such casing, and having bearings in the walls of the same carrying on its ends, gear-wheels adapted to engage with the larger ones mounted on the rear axle of the machine, a countershaft having bearings in the upper end of the casing, and carrying thereon sprocket-wheels connected by suitable chains with larger sprocket-wheels carried on the lower shaft, removable brushes with pockets formed between, secured to such chains and an apron forming a front wall of the casing, and adapted to oscillate backward and forward in front of the brushes within such casing, substantially as shown and described. 7th. In a street sweeper, the combination of the main sweeping mechanism, with extension brushes having pivoted bearings and buffers to take up lateral jar, such brushes adapted to sweep the refuse from the sides of the machine in front of the main sweeping brushes, and with suitable mechanism to elevate and lower the main sweeping brushes, and the extension brushes simultaneously, substantially as shown and described. 8th. In a street sweeper, the combination of a brush casing swung from the rear axle thereof and carrying therein suitable sweeping and elevating brushes, with flexible aprons between such brushes, an oscillating apron forming the front wall of the casing and adapted to oscillate in front of the brushes revolving within such casing, and an extension brush supported in front of and to one side of such oscillating apron, and adapted to be operated simultaneously with such apron and the main brushes or independently, substantially as shown and described. 9th. In a street sweeper, the combination of a framework, a brush casing swung from the rear axle of the sweeper, suitable sweeping and elevating brushes operated within such casing by the movement of the rear wheels of the sweeper, an oscillating apron forming the front wall of such casing, adapted to move backward and forward in front of such brushes, such apron formed in sections and provided with an adjustable extension at its lower end, a roller carried on the lower end of such adjustable extension, and an extension brush supported at one end in pivoted boxings and at the other end swung from the framework in front of and to one side of such brush casing, mechanism for operating such extension brush simultaneously with the elevating brushes or independently, and mechanism for raising and lowering the extension and the main brush casing, simultaneously or independently, substantially as shown and described. 10th. In a street sweeping machine, a framework supported upon wheels, the rear ones being loose on their axles, an inclosing casing swung from such axle, suitable shafts having bearings in the walls of such casing, the lower one having gear-wheels on its ends adapted to engage with and be operated upon by larger ones carried on the rear axle of the machine, sprocket-wheels mounted on the shafts within the casing, and connected by sprocket chains having brushes removably secured thereto, with pockets formed between the brushes, an apron forming the front wall of such casing and adapted to oscillate in front of such brushes, in combination with an extension brush supported from the framework in front of such oscillating apron, and adapted to be operated simultaneously with the main brushes, and means for raising and lowering the extension brush and the main brushes at one and the same operation, substantially as shown and described. 11th. In a street sweeper, the combination of a framework supported on wheels, the rear ones being loose on their axles, gear-wheels rigidly mounted on such axle and adapted to be thrown into connection with the main wheels, a brush casing swung from the rear axle, its forward end adjustably supported from the framework, shafts having bearings in the walls of the brush casing, gear-wheels mounted on the outer end of the lower shaft adapted to be operated from the main axle of the sweeper, sprocket-wheels mounted on such shaft within the casing and connected by sprocket chains with brushes mounted thereon, a flexible apron secured between such brushes for supporting the refuse as it is being elevated, an oscillating apron forming the front wall of the casing, a roller carried on the lower end of such apron, and suitable mechanism for oscillating such apron, an extension brush adjustably secured to the front of the oscillating apron and extending to the side of the machine, suitable mechanism for operating such extension brush, and suitable mechanism for raising and lowering such brush casing and extension brush together, substantially as shown and described.

No. 47,629. Process of Tanning. (*Procédé pour tanner.*)

Christian Heinerling, Frankfort-on-Main, Germany, 7th December, 1894; 6 years.

Claim.—1st. The process of tanning hides, consisting in subjecting them to the action of a solution containing chromate of chromium. 2nd. The process of tanning hides, consisting in subjecting them to the action of a solution containing chromate of chromium in which an atom has been replaced by an acid radical. 3rd. The process of tanning hides consisting in subjecting them successively to the action of solutions containing chromate of chromium and another compound of chromium respectively. 4th. The process of tanning hides consisting in subjecting them successively to the action of solutions containing chromate of chromium and a thiosulphate respectively. 5th. The process of tanning hides, consisting in subjecting them successively to the action of solutions containing chromate of chromium and a hydrosulphite respectively. 6th. The process of tanning hides, consisting in subjecting them successively to the action of solutions containing chromate of chromium in which an atom has been replaced by an acid radical and another compound of chromium respectively. 7th. The process of tanning hides, consisting in subjecting them successively to the action of solutions containing chromate of chromium in which an atom has been replaced by an acid radical and a thiosulphate respectively. 8th. The process of tanning hides, consisting in subjecting them successively to the action of solutions containing chromate of chromium in which an atom has been replaced by an acid radical and a hydrosulphite respectively.

No. 47,630. Composition for Polishing Silver, Etc.

(*Composition pour polir l'argent etc.*)

Adam Scott Dickison, Halifax, Nova Scotia, Canada, 7th December, 1894; 6 years.

Claim. A compound composed of iron oxide, rosin oil, linseed oil, and oil of vitriol, substantially in the proportions and for the purposes set forth.

No. 47,631. Non-Shearing Rod.

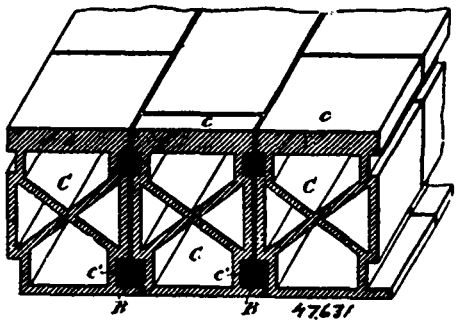
(*Tirant métallique pour planchers en ciment.*)

Thomas A. Lee, New York, State of New York, U.S.A., 7th December, 1894; 6 years.

Claim. 1st. A non-shearing tension rod for the purposes described consisting of two or more bars or stiff strands laid spirally together to form spiral channels for the adhesion of cement, concrete, or other surrounding material, substantially as set forth. 2nd. A non-shearing rod or bar for the purposes described consisting of two or more bars or stiff strands having spiral channels or grooves between them for the adhesion of cement, concrete, or other material, substantially as set forth. 3rd. A stiff non-shearing rod for the purposes described having spiral channels or grooves, substantially as set forth. 4th. A non-shearing rod for the purposes set forth consisting of two or more strands, and a plate or plates held in position by the said strands and forming spiral ribs around the said rod, substantially as set forth. 5th. A non-shearing rod for the purposes described, con-

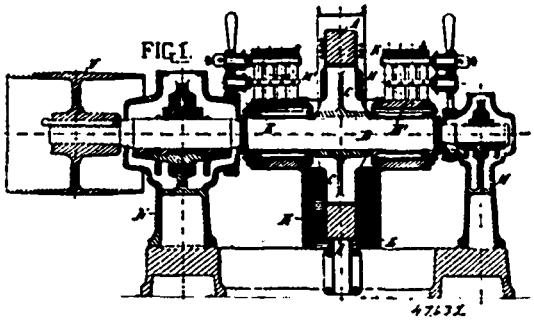
sisting of two or more strands and a plate or plates twisted together, substantially as set forth. 6th. A non-shearing rod for the purposes

Fig. 1.



described consisting of strands twisted together, but without twist in the individual strands, substantially as set forth.

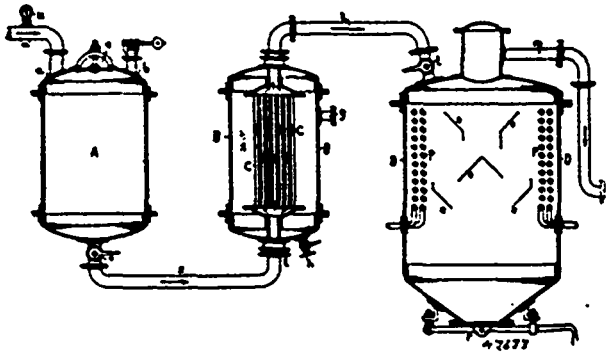
No. 47,632. Dynamo. (*Dynamo.*)



Alphonse Isidore Gravier, Paris, France, 7 Decembre, 1894; 18 ans.

Résumé.—La combinaison d'un système inducteur dont les pièces polaires F et G se développent dans la direction du fil de l'enroulement induit et couvert trois sections induites avec un système d'armature à sections independantes, induites successivement pendant leur passage à travers le champ magnétique, une seule de ces sections devant chaque pôle fournissant le courant utilisable recueilli par un ou deux collecteurs, tandis que les autres sont inactives et se refroidissent cette combinaison étant complétée par un circuit special K, placé au dessus et au dessous de l'induit pour annuler le flux magnétique produit dans le noyau A par le courant induit.

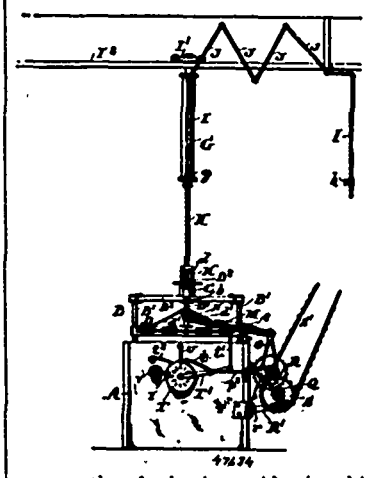
No. 47,633. Method of and Apparatus for Drying Substances which are Viscous or Semi-fluid in the Hot State. (*Méthode et appareil pour sécher des substances visqueuses ou semi-fluides à l'état chaud.*)



Rudolf Schicht, Aussig-on-the-Elbe, Austria, 7th December, 1894; 6 years.

Claim.—1st. The method of drying substances which are viscous or semi-fluid in the hot state, by introducing under pressure the entire amount of heat necessary for drying the substance, and then causing the latter to pass into a vessel subjected to a low pressure, and which may also be heated. 2nd. An apparatus for carrying out the method set forth, comprising a vessel A, subjected to pressure, a heating device B, having an interior system of pipes C, and a vacuum vessel D, in the interior of which may be arranged inclined planes O, O^1, the heating of the substance being regulated by means of a cock on the vacuum vessel, in such a manner that the substance to be dried will always be under pressure in front of said cock and flow into the said vessel D, at a boiling temperature corresponding to the pressure.

No. 47,634. Dyeing Machine. (*Machine à teindre.*)



John George Haslam, Philadelphia, Pennsylvania, U.S.A., 7th December, 1894; 6 years.

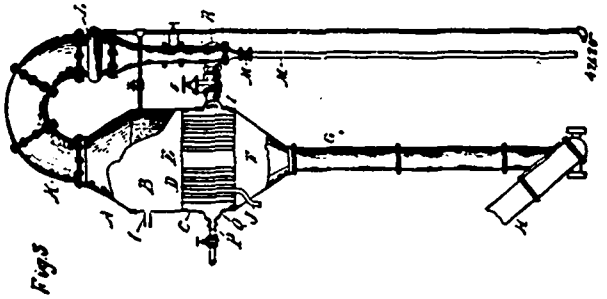
Claim.—1st. In a dyeing machine, the combination of a dye vat, a lift, a yarn frame supported by the lift with freedom of vertical movement with reference thereto, and devices to reciprocate the yarn frame upon the point at which it is supported by the lift, and independently thereof, whereby the yarn frame may be raised from the vat or carried thereinto by the lift, and may be reciprocated in the vat independently of the lift, and without disconnection therefrom. 2nd. In a dyeing machine, the combination of a yarn frame, a support therefor having guides in which the yarn frame may move, and a movable portion or member which may be opened or removed to admit the yarn frame, and devices to reciprocate the yarn frame in the guides of the support. 3rd. In a dyeing machine, the combination with the dye vat, and yarn-carrying frame, of the supporting frame K, in which the yarn frame is supported with freedom of movement, having the hinged member or portion K^2, a lock to lock the hinged member K^2, to the frame K, and devices to reciprocate the yarn-carrying frame in the supporting frame K. 4th. In a dyeing machine, a yarn frame having a set of upper and of lower yarn sticks and provided with stationary supports for the set of lower yarn sticks and adjustable supports for the upper set of yarn sticks. 5th. A yarn-carrying frame for a dyeing machine having a set of upper and lower yarn sticks, supports for the set of lower yarn sticks adjustable supports for the upper yarn sticks carrying upwardly extending rods or projections, and means to lower and raise said extending rods or projections to adjust the support of the upper yarn sticks with reference to the supports of the lower yarn sticks. 6th. In a dyeing machine, a yarn-carrying frame consisting of the uprights B^1, the lower transverse end pieces B^3, B^3, the upper end pieces B^4, B^2, the longitudinal top pieces C, and the supports for the upper set of yarn sticks guided by the uprights B^1, B^1, and adjustable thereon. 7th. In a dyeing machine, a yarn-carrying frame consisting of the uprights B^1, the lower transverse end pieces B^3, B^3, the upper transverse end pieces B^2, B^2, the longitudinal top piece C, and the supports for the upper set of yarn sticks guided by the uprights B^1, and provided with the upright rods or extensions projecting through the upper transverse end pieces B^2, B^2, and means to raise and lower the upright rods or extensions of the supports for the upper set of yarn sticks for the purpose of adjusting said supports. 8th. In a dyeing machine, the combination with the yarn sticks, of supports for the ends thereof, having sockets to receive the ends of the sticks and a projecting lip or extension c^1, adjacent to said sockets. 9th. In a yarn dyeing machine, rocking arms or levers for reciprocating a yarn frame, having notched ends, and a weighted lock pivoted at one side of the notched ends and normally projecting over the notches in the ends of the arms or levers. 10th. In a yarn-dyeing machine, the rocking arms or levers M, having the notched ends *n*, combined with the pivoted weighted dogs N, pivoted at one side of the notched ends and having the portions *g*, normally projecting over the notches *n*. 11th. In a yarn-dyeing machine, the combination with the yarn-carrying frame, of arms or levers supporting said frame, a shaft, connections between the shaft and arms or levers for reciprocating them, a gear-wheel for rotating the shaft, a pinion engaging said gear-wheel, a driving-wheel and an adjustable stud carrying the pinion and driving-wheel, whereby the driving-wheel may be moved to regulate the tension of the driving band or chain without breaking the engagement of the pinion and gear-wheel. 12th. In a dyeing machine, a yarn frame having a set of upper and lower yarn sticks, and provided with supports for the lower set of yarn sticks, and independently adjustable supports for the upper set of yarn sticks, whereby the upper set of sticks may be adjusted independently with reference to the lower set of yarn sticks from the top of the frame.

No. 47,635. Evaporator. (*Evaporateur.*)

Thomas Craney, Bay City, Michigan, U.S.A., 7th December, 1894; 6 years.

Claim.—1st. In a multiple evaporator apparatus, the combination

of a series of evaporating chambers, each having a discharge pipe for vapour and a settling leg or chamber, of connections whereby each evaporator may be operated separately or in series, using the vapour from the first distillation, substantially as described. 2nd. In an



Figs

evaporating apparatus, the combination of a series of evaporating pans, each having a vapour heating chamber, a condenser for each, a discharge pipe from each condenser, a common trunk into which said discharge pipes connect, a valved pipe for each discharge pipe below the trunk, valved connections from the trunk to the heating chamber of each pan, valved steam supply pipes to each heating chamber, substantially as described.

No. 47,626. Retting Fibrous Plants.

(*Rouissage de plantes fibreuses.*)

John Colt Pennington, Paterson, New Jersey, U.S.A., 7th December, 1894; 6 years.

Claim.—1st. The process of producing a bath or steep for retting, flax, or other fibrous plants, which consists in supplying to the water a liquid containing microbes known to produce proper retting, and adding thereto substances containing potash, phosphoric acid and nitrogen, substantially as described. 2nd. The process of producing a bath or steep for retting flax, or other fibrous plants, which consists in supplying to water a liquid containing microbes known to produce proper retting, and adding substances containing nitrogen, phosphoric acid, sulphuric acid, chlorine, magnesia and potash, substantially as described. 3rd. A composition of matter to be employed in retting, consisting of water, potash ammonia, phosphate of soda, sulphate of magnesia and chloride of manganese, substantially in the proportions specified.

No. 47,627. Boiler. (*Chaudière.*)

FIG.2.

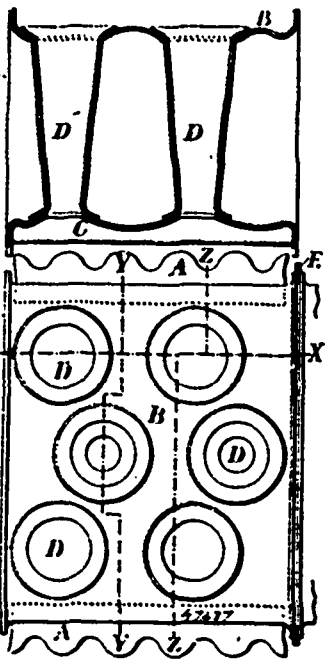


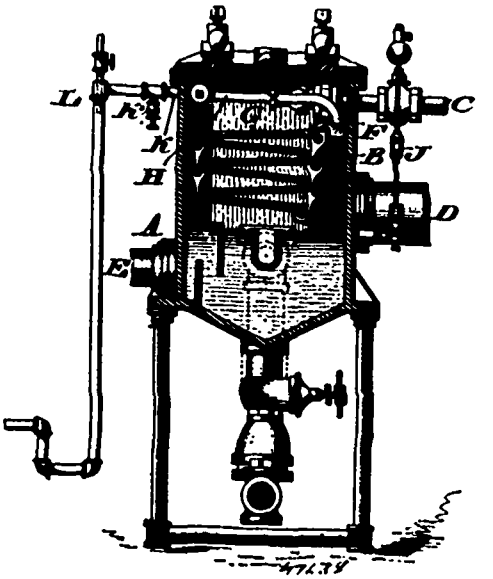
FIG.1.

Charles John Galloway, Manchester, England, 7th December, 1894; 6 years.

Claim.—1st. A Galloway boiler flue having its upper and lower parts undulated, and its transverse tubes coned at the ends to fit the undulations, substantially as described. 2nd. In a Galloway boiler flue constructed as set forth in the first claim, constructing the sections of the undulated upper and lower parts with flanges at the ends for securing them together, substantially as described.

No. 47,628. Feed Water Heater and Purifier.

(*Réchauffeur et épurateur d'eau d'alimentation.*)

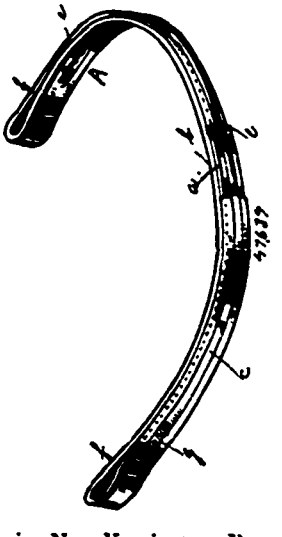


Warren Webster, Merchantville, New Jersey, U.S.A., 7th December, 1894; 6 years.

Claim.—1st. A feed water heater and purifier, constructed substantially as described, having an air pipe communicating with the interior thereof, and an air exhaust device separate and independent of any other discharge pipe attached to said air pipe, as set forth for the purpose stated. 2nd. In a feed water heater and purifier, means for directing water thereinto in the form of spray, in combination with an air inlet pipe, said device being separate and independent of any other discharge pipe communicating with the interior of said heater and purifier, and an air exhaust device attached to said pipe, substantially as described. 3rd. A feed water heater having a vacuum chamber, a steam inlet pipe, a water inlet pipe and a pipe in communication with said vacuum chamber, having an air inlet valve and an air exhaust device connected therewith, said exhaust device being separate and independent of any other discharge pipe, said parts being combined substantially as described.

No. 47,629. Brow-Band for Bridles.

(*Frontal de bride.*)

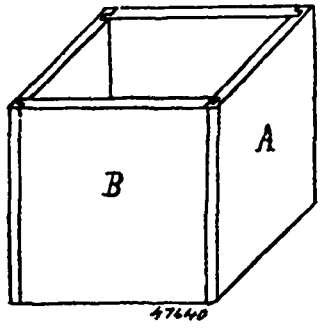


Charles Hugo Hartwig, New Kensington, Pennsylvania, U.S.A., 7th December, 1894; 6 years.

Claim.—A brow-band for bridles, consisting of a leather strap folded upon itself to form the end loops, the lining and the outer portion, said layers being stitched together through their longitudinal centre, and a sheet metal covering having flanges which overlap the edges of said outer portion to form an ornamental front to the band and a means for strengthening it, substantially as and for the purpose set forth.

No. 47,640. Butter Box. (*Boîte à beurre.*)

Fig 1



L. Arthur Dion, Montmagny, Québec, Canada, 7me Décembre, 1894; 6 ans.

Résumé.—1°. La combinaison des parois ou côtés munis de C, C, C, et des languettes D, D, tel que décrit. 2° La combinaison des raimures C, C, C, et des languettes D, D, du fond, et des coupes I, I, du couvercle, tel que ci-dessus décrit et pour les fins indiquées.

No. 47,641. Car Coupler. (*Attelage de chars.*)

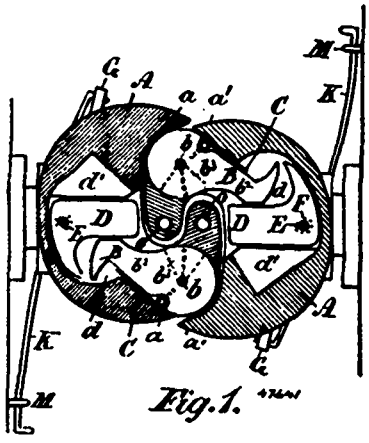


Fig. 1.

Michael J. Grady and Richard McMillan, both of Kingston, Ontario, Canada, 10th December, 1894; 6 years.

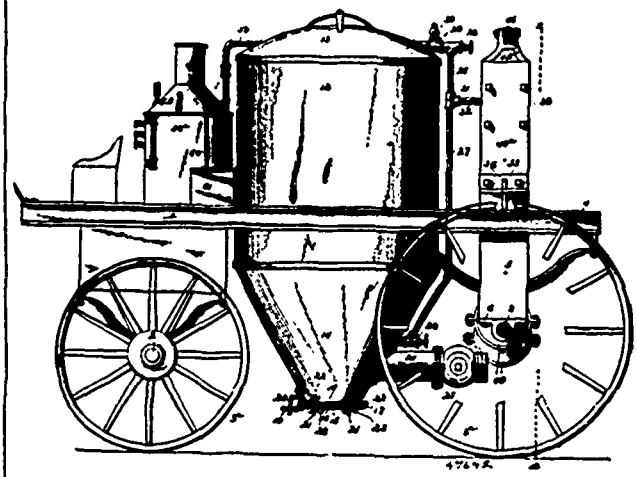
Claim.—1st. The combination, with the draw-head having arms a, a^1, cavity d, and recess d^1, of the V-shaped knuckle B, hinged to said arm a, and having an arm d^2 entering said cavity, a pin E passing vertically through said cavity, a V-shaped locking block or keeper D, sleeved on said pin to gravitate and lock said arm b^2 to effect coupling, as set forth. 2nd. The combination, with the draw-head A, having arms d, d^1, cavity d, and recess d^1, of the V-shaped knuckle B, hinged to said arm a, a spring C swinging said knuckle outwardly when released, a pin E passing through said cavity vertically, a V-shaped locking block D sliding on said pin to gravitate and lock the arm b^2 of the knuckle, and a lever G lifting said locking block and relieving the knuckle when said block is partly swung into the recess d^1 to uncouple, as set forth. 3rd. The combination, with the draw-head having an internal cavity d, and a recess d^1 therefrom, horizontally near the top, and the V-shaped knuckle B hinged to the front of the draw-head and having an arm b^2 entering said cavity, of the pin E passing through said cavity, and extending below the draw-head, the keeper D sleeved on said pin, the lever G lifting said keeper, and the pull rod K extending below the draw-head and operating the lever, substantially as set forth.

No. 47,642. Apparatus for Cleaning Gullies.

(*Appareil pour nettoyer les égouts, etc.*)

Felix Louis Decarie, Montreal, Quebec, Canada, 10th December, 1894; 6 years.

Claim.—1st. In an apparatus of the class described, the combination of a portable frame, an upright vacuum tank supported within said frame and provided with a bottom gate, inclosed discharge opening and a main valved inlet pipe, valved upper and lower suction pipes connected respectively to the upper and lower ends of said tank at one side thereof, an air vent cock connected with the upper of said suction pipes, a pump having the inlet thereof connected with said suction pipes, and means for operating said pump, substantially as set forth. 2nd. In an apparatus of the class described, the combination of a wheeled frame, an upright vacuum tank provided with a contracted lower end having a bottom discharge opening and a main valved inlet pipe connected therewith near such opening, a hinged cover or gate working over the bottom discharge opening, a spring actuated latch pin supported to engage one edge of



said cover or gate, a series of hinged bolts connected to the tank and adapted to have the nuts thereof engage said cover or gate, and means for creating a vacuum within said tank, substantially as set forth. 3rd. In an apparatus of the class described, the combination of a wheeled frame, a vacuum tank supported in said frame and provided with a lower valved inlet pipe and an upper air suction pipe, an upright pump frame supported on one of the axles of the wheeled frame independently of the latter, a double cylinder pump mounted within the upright pump frame and having its inlet connected with said suction pipe, and means for operating the pump from the axle on which the same is supported, substantially as set forth. 4th. In an apparatus of the class described, the combination of the wheeled frame provided at opposite sides with upwardly disposed stationary guide pins, one of the axles of said wheeled frame being sectional and consisting of independently rotating sections, a vacuum tank supported in said frame and provided with a lower valved inlet pipe, valved upper and lower suction pipes connected to the tank at one side, and the upper of which suction pipes is further provided with an air vent cock, an upright pump frame arranged within the wheeled frame, and loosely connected at its lower end to said sectional axle, said upright pump frame being provided at opposite sides with off-standing perforated bracket plates loosely working over said guide pins, a double cylinder pump mounted within said suction pipes, and means for operating the pump from the separate sections of the sectional axle, substantially as set forth. 5th. In an apparatus of the class described, the combination of the wheeled frame, one of the axles of which is sectional and consists of independently rotating parts, an upright vacuum tank supported in said frame and provided with a lower valved inlet pipe, valved suction pipes connected to said tank, an upright pump frame supported for self-adjustment within the wheeled frame upon the sectional axle thereof, said pump frame being provided at its upper end with a transverse stay bracket having an intermediate bearing support, opposite pump cylinders secured to opposite inner sides of said pump frame, and having their inlets connected with said suction pipes, the piston rods for the pump cylinders working above and below the same, a walking beam or lever pivotally mounted in the bearing support of said stay bracket and connected with the upper ends of the piston rods, vertical cross-head guides attached to the inner sides of the pump frame below the cylinders, sliding cross-heads working in said guides and attached to the lower ends of the piston rods, reversely arranged eccentrics mounted on the separate sections of the sectional axle, and eccentric rods connected to said eccentrics and detachably at their upper ends to said cross-heads, substantially as set forth. 6th. In an apparatus of the class described, the combination of a portable frame, an upright vacuum tank supported in the frame, and provided with a lower main valved inlet pipe, separate valved upper and lower suction pipes connected respectively with the tank at the upper and lower ends thereof, the connection of the upper of said pipe with the tank being provided with an air vent cock, a pump arranged on the portable frame, and having the inlet thereof connected with the suction pipes, means for operating the pump, and a steam boiler having a pipe connection with the tank, substantially as set forth.

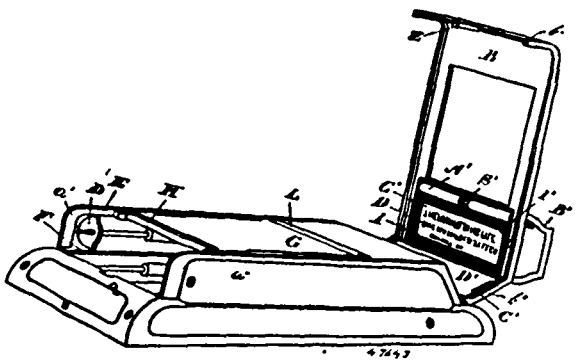
No. 47,643. Autographic Register.

(*Registre autographique.*)

Henry Clayton Biette, Toronto, Ontario, Canada, 10th December, 1894; 6 years.

Claim.—1st. An autographic register consisting of a base frame,

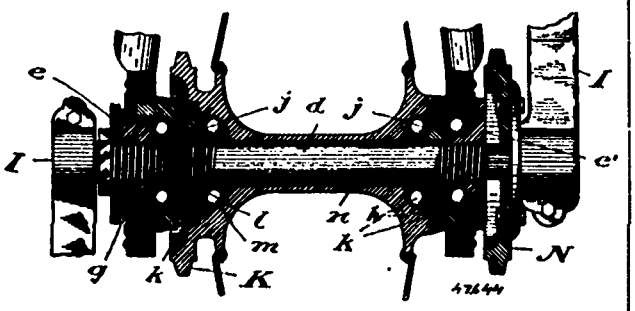
a spindle carrying frame removably connected to the base frame, and a top frame which in conjunction with the base frame incloses the spindle carrying frame, substantially as specified. 2nd. An autographic register, consisting of a base frame, having a chamber in one side thereof, spindles journalled in the said chamber, a spindle carrying frame, spindles carried by the said frame arranged at right angles to the spindles in the base frame, and a top frame which in conjunction with the base frame incloses the spindle carrying frame



and interior mechanism, substantially as specified. 3rd. An autographic register, consisting of a base frame, a spindle carrying frame within the base frame, a series of spindles journalled in the spindle carrying frame, means for drawing the spindles together as they discharge their load, a top frame mounted on the base frame for inclosing the spindle carrying frame, substantially as specified. 4th. An autographic register, consisting of a base frame, a chamber formed in the base frame, spindles journalled in the said chamber for carrying the transfer ribbon, a spindle carrying frame within the base frame, spindles journalled in the spindle carrying frame, means for automatically drawing the spindles together as they discharge their load, and a top frame which in conjunction with the base frame incloses the spindle carrying frame and interior mechanism, substantially as specified. 5th. An autographic register, consisting of a base frame, a chamber formed in the base frame, spindles journalled in the said chamber for carrying the transfer ribbon, a spindle carrying frame within the base frame, spindles journalled in the spindle carrying frame, means for automatically drawing the spindles together as they discharge their load, a top frame which in conjunction with the base frame incloses the spindle carrying frame and interior mechanism and a delivery roller journalled in the spindle carrying frame, and a delivery roller journalled in the top frame, substantially as specified. 6th. An autographic register, consisting of a base frame, a chamber in one side thereof, spindles journalled in the said chamber, a spindle carrying frame within the base frame, a roller at the feed end of the top of the spindle carrying frame, paper carrying spindles journalled in the spindle carrying frame, means for automatically drawing together the said spindles as they discharge their load, the top frame, and the delivery rollers, the under one of which is mounted in the spindle carrying frame, and the upper one of which is mounted in the top frame, substantially as specified. 7th. An autographic register, consisting of a base frame, a chamber in one side thereof, ribbon carrying spindles journalled in the chamber, the spindle carrying frame, a roller journalled at the top of the feed end of the spindle carrying frame, paper carrying spindles journalled in the spindle carrying frame, means for automatically drawing together the paper carrying spindles as they discharge their load, a delivery roller journalled in the top of the spindle carrying frame between the feed and delivery ends of the same, a winding roll and the top frame which in conjunction with the base frame incloses the spindle carrying frame and interior mechanism, and a delivery roller journalled in the top frame vertically above the delivery roller in the spindle carrying frame when the several parts are assembled, substantially as specified. 8th. An autographic register, consisting of a base frame, a chamber in one side thereof, ribbon carrying spindles journalled in the chamber, the spindle carrying frame, a roller journalled at the top of the feed end of the spindle carrying frame, paper carrying spindles journalled in the spindle carrying frame, means for automatically drawing together the paper carrying spindles as they discharge their load, a delivery roller journalled in the top of the spindle carrying frame between the feed and delivery ends of the same, a winding roll, means for automatically revolving the winding roll, the top frame which in conjunction with the base frame incloses the spindle carrying frame and interior mechanism, and a delivery roller journalled in the top frame vertically above the delivery roller in the spindle carrying frame when the several parts are assembled, substantially as specified. 9th. An autographic register consisting of a base frame, a chamber in one side thereof, ribbon carrying spindles journalled in the chamber, the spindle carrying frame, a roller journalled at the top of the feed end of the spindle carrying frame, paper carrying spindles journalled in the spindle carrying frame, means for automatically drawing together the paper carrying spindles as they discharge their load, a delivery roller journalled in the top of the spindle carrying frame between the feed and delivery ends of the same, a winding roll, and the top frame which in conjunction with the base frame incloses the spindle carrying frame and interior mechanism, a delivery roller journalled in the top frame vertically above the delivery roller in the spindle, carrying frame when the several parts are assembled, and a stamp located between the delivery rolls and the delivery end of the register substantially as specified. 10th. An autographic register, consisting of a base frame, a chamber in one side thereof, ribbon carrying spindles journalled in the chamber, the spindle carrying frame, a roller journalled at the top of the feed end of the spindle carrying frame, paper carrying spindles journalled in the spindle carrying frame, means for automatically drawing together the paper carrying spindles as they discharge their load, a delivery roller journalled in the top of the spindle carrying frame between the feed and delivery ends of the same, a winding roll, means for automatically revolving the winding roll, the top frame which in conjunction with the base frame incloses the spindle carrying frame and interior mechanism, a delivery roller journalled in the top frame vertically above the delivery roller in the spindle carrying frame when the several parts are assembled, and a stamp located between the delivery rolls and the delivery end of the register, substantially as specified. 11th. An autographic register consisting of a base frame, a chamber in one side thereof, ribbon carrying spindles journalled in the chamber, the spindle carrying frame, a roller journalled at the top of the feed end of the spindle carrying frame, paper carrying spindles journalled in the spindle carrying frame, means for automatically drawing together the paper carrying spindles as they discharge their load, a delivery roller journalled in the top of the spindle carrying frame between the feed and delivery ends of the same, a winding roll, and the top frame which in conjunction with the base frames incloses the spindle carrying frame and interior mechanism, a delivery roller journalled in the top frame vertically above the delivery roller in the spindle carrying frame when the several parts are assembled, a stamp located between the delivery rolls and the delivery end of the register, and a cushion on the spindle carrying frame vertically below the said stamp, substantially as specified. 12th. An autographic register consisting of a base frame, a chamber in one side thereof, ribbon carrying spindles journalled in the chamber, the spindle carrying frame, a roller journalled at the top of the feed end of the spindle carrying frame, paper carrying spindles journalled in the spindle carrying frame, means for automatically drawing together the paper carrying spindles as they discharge their load, a delivery roller journalled in the top of the spindle carrying frame between the feed and delivery ends of the same, a winding roll, means for automatically revolving the winding roll, the top frame which in conjunction with the base frame incloses the spindle carrying frame and interior mechanism, a delivery roller journalled in the top frame vertically above the delivery roller in the spindle carrying frame when the several parts are assembled, a stamp located between the delivery rolls and the delivery end of the register, and a cushion on the spindle carrying frame vertically below the said stamp, substantially as specified. 13th. An autographic register consisting of a base frame, a chamber in the side of the base frame, ribbon carrying spindles journalled in the chamber, a spindle carrying frame mounted in the base frame, a roller journalled at the top of the feed end of the spindle carrying frame, paper carrying spindles journalled in the spindle carrying frame, means for automatically drawing together the paper carrying spindles as they discharge their load, a delivery roller journalled in the top of the spindle carrying frame between the feed and delivery ends, a winding roll journalled in the base frame, a spring operated gear to automatically turn the winding roll, a tension roll journalled in the base frame around which passes the paper from one of the paper carrying spindles to the winding roll, the top frame which in conjunction with the base frame incloses the interior mechanism, a delivery roller journalled in the top frame vertically above the delivery roller in the spindle carrying frame when the several parts are assembled and a printing stamp between the delivery rollers and the delivery end of the register, substantially as specified. 14th. An autographic register consisting of a base frame, ribbon carrying spindles journalled in the chamber, a spindle carrying frame mounted in the base frame, a roller journalled at the top of the free end of the spindle carrying frame, paper carrying spindles journalled in the spindle carrying frame, means for automatically drawing together the paper carrying spindles as they discharge their load, a delivery roller journalled in the top of the spindle carrying frame between the feed and delivery ends, a winding roll journalled in the base frame, a spring operated gear to automatically turn the winding roll, a tension roll journalled in the base frame around which passes the paper from one of the paper carrying spindles to the winding roll, the top frame which in conjunction with the base frame incloses the interior mechanism, a delivery roller journalled in the top frame vertically above the delivery roller in the spindle carrying frame when the several parts are assembled, a printing stamp between the delivery rollers and the delivery end of the register, and a cushion on the spindle carrying frame vertically below the printing stamp, substantially as specified. 15th. The combination with an autographic register of a printing stamp consisting of a shell, a plunger vertically moveable through the shell, a vertical slot in each side of the plunger, a pin passing through the shell and slots in the plunger, a spring within the plunger bearing on the said pin and the under side of the top of the plunger, a platen carried by the plunger, an inking pad consisting of two spring operated sections, each of which is

mounted on a spindle, substantially as specified. 16th. The combination with an autographic register of a printing stamp, consisting of a shell, a plunger vertically movable through the shell, a vertical slot in each side of the plunger, a pin passing through the shell and slots in the plunger, a spring within the plunger bearing on the said pin and the under side of the top of the plunger, a platen carried by the plunger, an inking pad consisting of two spring operated sections, each of which is mounted on a spindle, and rollers at the corners of the said platen to open the sections of the inking pad, substantially as specified. 17th. The combination with an autographic register, of a spindle journalled therein, a winding gear to turn the said spindle consisting of a coiled spring, an annular gear rotated by the said spring, a pinion meshing with the annular gear and mounted on a spindle, a second pinion mounted on the same spindle meshing with a pinion mounted on a spindle which turns the winding spindle, substantially as specified.

No. 47,644. Tandem Bicycle. (*Bicycle.*)



Edward Colston Hill, Toronto, Ontario, Canada, 10th December, 1894; 6 years.

Claim.—1st. In a tandem bicycle, a supplemental frame carrying the saddle of the rear rider, consisting of a substantially horizontal brace detachably connected to the upper rear connection and a vertical fork, the lower ends of which are detachably connected to the lower rear connections of the main frame, substantially as and for the purpose specified. 2nd. In a tandem bicycle, a supplemental frame carrying the saddle of the rear rider, consisting of a substantially horizontal brace detachably connected to the upper rear connection and a vertical fork, the lower ends of which are detachably connected to the lower rear connections of the main frame, in combination with a rotatable rear axle, to which the rear pedal cranks are connected, a sprocket-wheel and chain connection between said rear axle and the driving axle, and the ordinary sprocket-wheel and chain connection between the driving axle and the hub of the rear wheel, substantially as and for the purpose specified. 3rd. In a bicycle, in which both the axle and hub of the rear wheel revolve, the combination with the stationary pieces connected to the frame of the machine, of a series of balls arranged between cones connected to the axle, and cups formed in the stationary pieces, and a series of balls arranged between cones formed on the said stationary pieces, and cups formed in the hub of the rear wheel whereby both axle and hub have stationary bearings on which to revolve, thus avoiding the excessive friction resulting when one or the other has its bearing on a moving part, substantially as and for the purpose specified. 4th. In a tandem bicycle, the combination of the rotatable rear axle *d*, adjustable cone *c*, and fixed cone c^1, stationary pieces *j* connected to the frame of the machine, a series of balls arranged between the cones *c*, c^1, and cups *k* in the said stationary pieces, a series of balls arranged between the cups on the hub *n*, and cones *l* on the said stationary pieces, sprocket-wheel N fixed to the rear axle, second driving chain O, sprocket-wheels M and J fixed to the driving axle *i*, driving chain L, and sprocket-wheel K fixed to the hub *n* of the rear wheel, substantially as and for the purpose specified. 5th. In a tandem bicycle, the combination of the rotatable rear axle *d*, adjustable cone *c*, and fixed cone c^1, stationary pieces *j*, connected to the frame of the machine, a series of balls arranged between the cones *c*, c^1, and cups *k* in the said stationary pieces, a series of balls arranged between the cups on the hub *n*, and cones *l* on the said stationary pieces, said bands *g* and *k* fitting into grooves in the stationary pieces *j*, and the hub *n*, sprocket-wheel N fixed to the rear axle, second driving chain O, sprocket wheels M and J fixed to the driving axle *i*, driving chain L, and sprocket-wheel K fixed to the hub *n* of the rear wheel, substantially as and for the purpose specified.

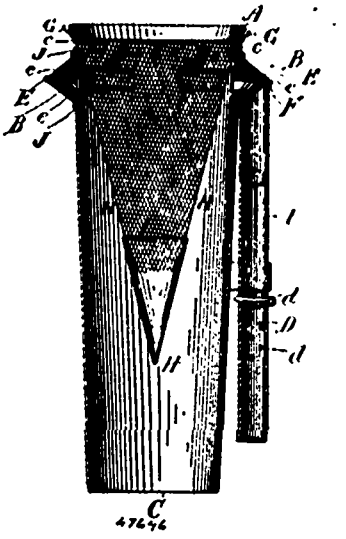
No. 47,645. Process of Revivifying Bone Black.

(*Procédé pour révivifier le noir animal.*)

Moriz Weinrich, St. Louis, Missouri, U.S.A., 10th December, 1894; 6 years.

Claim.—1st. The described process of regenerating and recarbonizing spent bone-char, consisting in supplying it with a new charge or coating of animal carbon, by impregnating it with a solution of organic animal matter such as gelatine, as set forth, and then drying and charring said product, all substantially as set forth. 2nd. The described process of regenerating and recarbonizing spent bone-char, consisting in supplying it with a new charge or coat of animal carbon, by impregnating it with a hot solution of crude gelatine, and then drying and charring it, all substantially as set forth.

No. 47,646. Spark-Arrester. (*Arrête-étincelle.*)

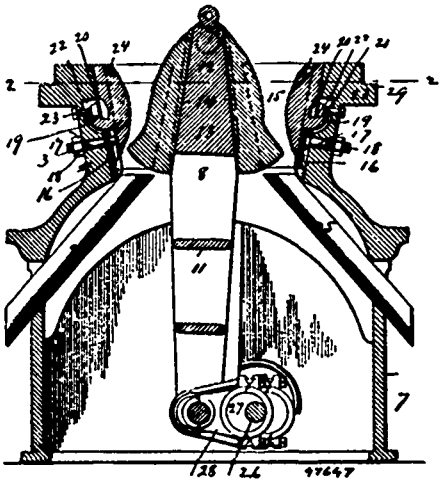


George H. Shoemaker, South Bend, Indiana, U.S.A., 10th December, 1894; 6 years.

Claim.—1st. In a spark-arrester, the combination of the cylinder C, with the inverted screen cone H, and the rim A, covering the ends of the cylinder and the cone, substantially in the manner and for the purposes set forth. 2nd. In combination of the screen cone H, with the cylinder C, having openings B, near its upper end and the spark receiving chamber E, formed of pieces *c*, *c*, placed at an angle on the sides of the cylinder and over said openings B, and the tube I, connected at its upper end to the lower side of the said chamber and having at its lower end the detachable and perforated section B, all as and for the purposes set forth.

No. 47,647. Rock Breaking Machine.

(*Machine pour casser la roche.*)

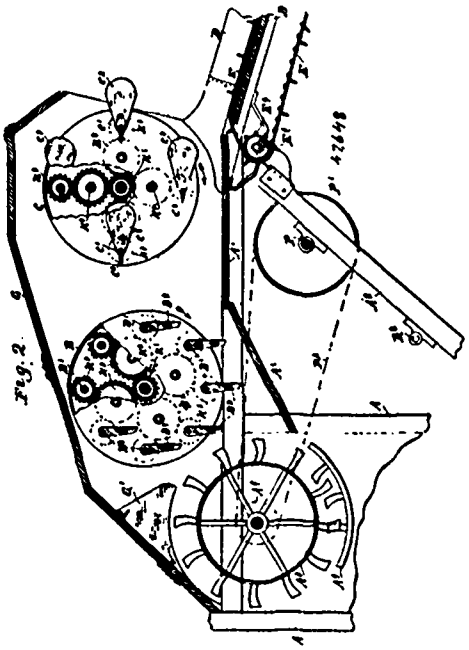


Cornelius Kimplen, Chicago, Illinois, U.S.A., 10th December, 1894: 6 years.

Claim.—1st. The combination of a casing having a vertical partition or wall, an oscillatory lever pivotally suspended at each side of the partition or wall, the face plates 13 and 15, attached respectively to both sides of each lever and to the opposite inner sides of the casing, and a single shaft connected with and operating the levers, substantially as described. 2nd. The combination of a casing 7, having a central vertical partition or wall 7^a, an oscillatory lever 8 pivotally suspended at each side of the said partition or wall, the face plates 13 secured to opposite sides of each lever, the face plates 15, secured to the casing at opposite sides of the said partition, a single shaft 26, provided with eccentrics 27, and connecting rods 28

between the eccentrics and the levers, whereby the levers are oscillated by a single shaft, substantially as described. 3rd. The combination with a casing, and crushing mechanism, of a face plate 15, having a lug 19, said lug having an inclined upper surface, a recess 21 in said casing, bolt 23, having a nut 22, said nut having an inclined under surface adapted to rest upon the upper surface of said lug, and means for securing said plate upon the casing, substantially as described. 4th. The combination with a casing, and crushing mechanism, of a plate 15, having a lug 19, and a groove 16, a bolt 17, projecting through said casing into said groove 16, said bolt having a head adapted to fit into said groove 16, bolt 23, nut 22 carried thereby, and a recess 21 in said casing adapted to receive said nut 22, the said lug 19, and the nut 22, being provided with inclined surfaces in contact with each other, substantially as and for the purpose specified.

No. 47,648. Band Cutter and Feeder. (*Coupe-hart et alimentateur.*)



The Pioneer Thresher Company, assignee of Robert E. Dorton, both of Faribault, Minnesota, U.S.A., 10th December, 1894; 6 years.

Claim.—1st. In a threshing machine, the combination with band cutting and feeding devices and a threshing cylinder, of mechanism constructed and operating to remove any excess of stock which may accumulate between the band cutting devices and the threshing cylinder and deposit the same in front of the band cutting mechanism, substantially as described. 2nd. In a threshing machine, the combination with the threshing cylinder, of a rotary cylinder provided with feathering shafts and clearing teeth carried on and feathered by said shafts, adapted to throw outward to the front of the machine any excess of stock which may accumulate between the band cutting mechanism and the threshing cylinder. 3rd. In a threshing machine, the combination with the threshing cylinder, of a rotary cylinder provided with feathering shafts carrying band cutting knives and clearing teeth, the said cylinder operating to cut the bundles, spread and forward the stock, and to throw outward to the front any excess of stock which may accumulate between the said band cutting and clearing cylinder and the said threshing cylinder, substantially as described. 4th. A feeding mechanism for threshers, comprising a feed cylinder for effecting a forced feed to the thresher and a clearing cylinder for preventing an excessive feed by said feed cylinder, the said clearing cylinder being arranged to work against the back pressure of the feed cylinder to throw backward and clear the same of any excess of stock accumulating between the said cylinders. 5th. A feeding mechanism for threshers, comprising a feed cylinder and a clearing cylinder having forwardly projecting teeth, for preventing an excessive feed by said feed cylinder, the said clearing cylinder being arranged to work against the back pressure of the feed cylinder to throw backward and clear the same of any excess of stock accumulating between the two cylinders. 6th. A *feeding mechanism for threshers, comprising a toothed feed cylinder* and a toothed clearing cylinder, the latter of which works against the back pressure of the former, the teeth of the feed cylinder being arranged to engage stock to effect a normal feed and clear the accumulated excess of stock and the teeth on the clearing cylinder being arranged to clear the normal feed of stock and to engage and return the excess of stock accumulating between the two cylinders, substantially as described. 7th. In a threshing machine, a band cutter consisting of a rotary cylinder, provided with feathering shafts carrying the band cutting knives, substantially as described. *8th. In a thresher, the combination with a resisting surface of one* or more conveyers for supplying the uncut bundles and a rotary band cutter, arranged transversely to said conveyers and resisting surface and provided with feathering knives feathering opposite to the movement of the stock, substantially as and for the purpose set forth. 9th. A band cutting and feeding mechanism for threshers, comprising a feed cylinder parallel with and delivering to the threshing cylinder and a combined band cutting and clearing cylinder provided with a series of backwardly extended feathering knives and forwardly extended feathering teeth, the said combined cutting and clearing cylinder being arranged in advance of and parallel with the feed cylinder, the feathering knives of the same serving to cut the bands, spread out the bundles and supply the stock to the feed cylinder and the said feathering teeth working against the back pressure from the feed cylinder and serving to catch and throw backward any excess of stock which would otherwise be carried forward by the feed cylinder, substantially as described. 10th. The feeding mechanism for threshers, comprising the feed cylinder with the feathering teeth standing at an angle to the movement of the stock and the combined band cutting and clearing cylinder provided with feathering knives and feathering teeth standing approximately parallel with the line of the feed, substantially as and for the purpose set forth. 11th. A band cutter and feeder, comprising a forwardly extended feed table, a bundle table extending forward of the feed table and provided with conveyors delivering thereto a feed cylinder parallel with and delivering to the threshing cylinder, a combined band cutting and clearing cylinder overhanging the feed table in advance of and parallel with the feed cylinder and provided with feathering shafts having secured thereto backwardly extended knives and forwardly extended clearing teeth and an open ended hood overdecking the said cylinders and provided with a deflecting board for co-operation with said clearing teeth to redeliver to the conveyors the excess of stock thrown back thereby, substantially as described. 12th. In a thrasher, the combination with the threshing cylinder, of the feed cylinder, the combined band cutting and clearing cylinder, the endless conveyors for supplying the bundles, the friction clutch governor, driving connections arranged to keep the combined band cutting and clearing cylinder in continuous motion, and driving connections from the threshing cylinder to the said feed cylinder and the said conveyors having said friction clutch governor as one element thereof, substantially as and for the purposes set forth. 13th. In a thresher, the combination with a threshing cylinder and a feeding device delivering directly thereto, of a combined band cutting and clearing cylinder, the endless conveyors for supplying the bundles, the friction clutch governor, driving connections arranged to keep the said band cutting and clearing cylinder in continuous motion, and driving connections from the threshing cylinder to the said feed device and to the said conveyors, having said friction clutch governor as one element thereof, substantially as and for the purpose set forth.

No. 47,649. Cork Extractor. (*Tire-bouchon.*)

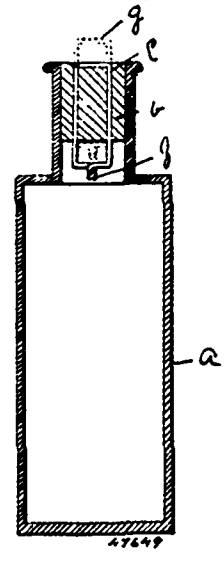


Fig 1

Edward W. Robinson, Deering, and Nathaniel Mason Marshall, Portland, both in Maine, U.S.A., 10th December, 1894; 6 years.

Claim.—1st. The combination with a bottle stopper made of yielding material, of a stopper extractor consisting of a wire doubled and passing through the stopper at two separate points, said wire having its ends united, the two vertical parts being somewhat longer

than the stopper, substantially as and for the purposes set forth. 2nd. The combination of a bottle stopper composed of a yielding material, an extractor passing through said stopper at two different points and having its ends united together, and the top adapted to be recessed in the top of the stopper, substantially as and for the purposes set forth. 3rd. The combination with a bottle stopper, of a stopper puller consisting of a single piece of flat wire passing vertically through said stopper at two different points, said wire being countersunk into the top of said stopper, and having its two ends knotted together at the bottom, and so arranged that its flattened side will be presented to that portion of the stopper lying between its vertical parts, the length of the vertical parts of said wire being somewhat greater than the length of the stopper, substantially as and for the purposes set forth.

No. 47,650. Deodorizing Apparatus.

(*Appareil de désinfection.*)

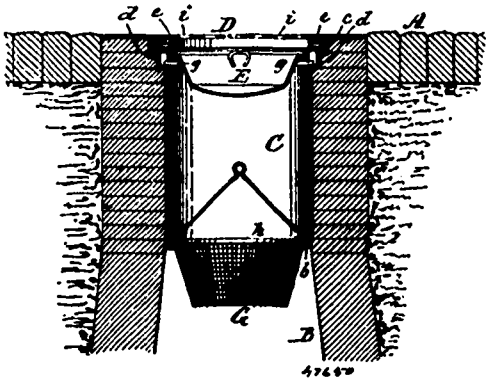


Fig. 1.

George Wright and Alexander Allister, both of Winnipeg, Manitoba, *Canada, 10th December, 1894; 6 years.*

Claim.—1st. The metal case or lining C, provided with a rim or flange *b*, and fitting into the manhole from its top, in combination with a perforated ventilating opening and closing cover D, substantially as described. 2nd. The combination with a metal case or lining C, within the sewer manhole, said case having step-by-step flanges at top and inward flange at the bottom of the mud-pan fitted to the lower step, and the ventilating cover fitting into the upper step, and a basket or grating seated on the inturned flange, substantially as set forth. 3rd. The combination with a metal case or lining within a sewer manhole, of a basket or the like supported by the case below the mouth of the manhole, and carrying a deodorizing or fumigating material or materials for purifying, absorbing, or consuming noxious and deleterious gasses rising from the sewer, substantially as described. 4th. The combination with the manhole case or lining C, and the ventilating cover D, of the mud-pan E, and basket G, substantially as and for the purpose described.

No. 47,651. Stone Crusher.

(*Machine à broyer la pierre.*)

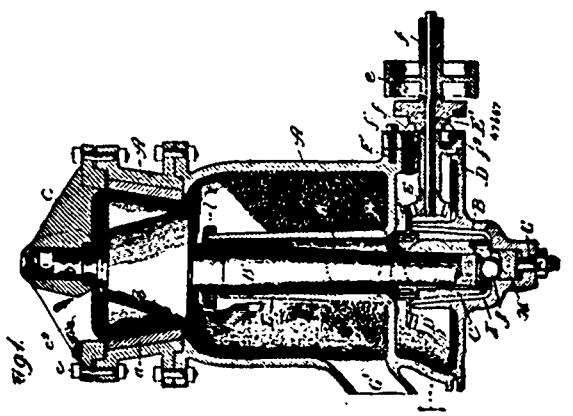


Fig. 1.

The Gates Iron Works, assignee of Philetus Warren Gates, and Charles Lewis Carman, all of Chicago, Illinois, U.S.A., 10th December, 1894; 6 years.

Claim.—1st. In stone crushers, the combination of a crusher-frame having suitable crushing mechanism located therein, mechanism for actuating such crushing mechanism, and a horizontal diaphragm interposed between the crushing mechanism and its actuating *mechanism to assist in discharging the crushed material,* substantially as described. 2nd. In stone crushers, the combination of a crusher-frame provided with one or more openings through which crushed material may be discharged, a gyrating-shaft located therein *having the crushing mechanism secured at the upper end, and the* actuating mechanism at its lower end, and a horizontal diaphragm secured to the crusher-frame between the crushing and actuating mechanisms upon which the broken mateiral may fall and form the proper angle to discharge the crushed material through one or more of said discharge openings, substantially as described. 3rd. In stone crushers, the combination of a crusher frame provided with an opening for the discharge of the crushed material, crushing mechanism located therein, mechanism for actuating such crushing mechanism, a horizontal diaphragm provided with an upright portion and dust cap adapted to surround a portion of the mechanism and assist in discharging the crushed material, substantially as described. 4th. In stone crushers, the combination of a crusher-frame provided *with an opening through which the crushed material may be dis*charged, a gyrating-shaft located therein provided with crushing mechanism at its upper end and actuating mechanism at its lower end, and a horizontal diaphragm secured to the crusher-frame at a point below the discharge opening in such frame and between the crushing and actuating mechanisms, substantially as described. 5th. In a stone crusher, the combination of a crusher-frame provided with an opening through which the crushed material may be discharged, a gyrating-shaft located therein provided with crushing mechanism at its upper end, actuating mechanism at its lower end, and a horizontal diaphragm provided with an uprising cylindrical portion and dust cap adapted to inclose a portion of the crushing mechanism and assist in dischaging the crushed material, substan*tially as described. 6th. In stone brakers, the combination of a* crusher-frame provided with several openings located around its circumference, crushing mechanism located therein, and having its operating gear arranged adjacent to such openings, a self-contained bracket having the intermediate driving mechanism rotatably mounted therein, so as to remove or secure such mechanism to the crusher-frame by the removal or securing of the bracket to the frame, and means for securing the bracket with its driving mechanism to the crusher-frame at and in line with one or more of its openings, to engage with and operate the crushing mechanism, substantially as described. 7th. In stone breakers, the combination of a crusher-frame provided with a discharge open*ing, an opening opposite and an opening or openings at right angles thereto, crushing mechanism located therein and having its driving* gear adjacent to several of such openings, a bracket having the driving mechanism rotatably mounted therein and adapted to be secured to the crusher-frame at and in line with one or more of several of its openings, and means for adjustably securing the bracket to the crusher-frame at and in line with the openings for the purpose of engaging its driving mechanism with the operating mechanism of the crusher, substantially as described. 8th. A bearing for a ball constructed with a curved annular valley bounded by an outer wall and an apex, and whose curvature is about equal to the radius of the ball, the radii for said valley being struck from points in the path described by the centre of the ball, substantially as described. 9th. In a machine employing a gyrating-shaft, the *combination with the shaft and suitable means for gyrating it of a* ball and one or two cup bearings which are constructed with a curved annular valley whose curvature is about equal to the radius of the ball, the radii of said valley being struck from points in the path described by the centre of the ball, substantially as described. 10th. The combination of a gyrating-shaft having a cup bearing constructed with a curved annular valley attached or applied to its lower end, a ball, and a lower stationary cup bearing also constructed with a curved annular valley, substantially as described.

No. 47,652. Ore Crusher.

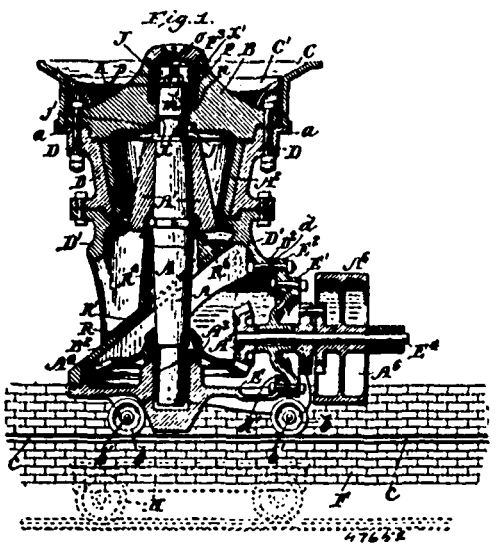
(*Machine à broyer le minerais.*)

The Gates Iron Works, assignee of Philetus Warren Gates and Avery Eugene Hoyt, all of Chicago, Illinois, U.S.A., 10th December, 1894; 6 years.

Claim.—1st. A stone breaker or ore crusher, having a hopper formed of two or more sections or rings, one of said sections being adapted to be lifted up and away from the other section without disturbing said other section, substantially as described. 2nd. A hopper for a stone breaker or ore crusher, formed of two or more sections or rings, the inner one of said sections resting upon an independent support from that upon which the section or ring immediately surrounding it rests or is supported, substantially as described. 3rd. The combination in a hopper for a stone or ore crusher, of two or more sections arranged on different planes and forming a continuous unbroken surface, and so constructed that either one of said sections may be removed without disturbing the other, substantially as described. 4th. In a stone breaker or ore crusher, the combination of a crusher-frame, a hopper constructed of outer and inner sections or rings, a gyratory-shaft, a crusher-head thereon, a spider mounted on said frame, and supporting a section of the hopper, the said shaft, spider, and inner hopper section being constructed to be removed without interfering with the outer section of the hopper, substantially as described. 5th. The combination, with the breaker or crusher casing, shaft and crusher-head carried thereby,

of a laterally moving base plate carrying the intermediate shaft, its gearing, and the actuating mechanism of the crusher, and anti-friction devices supporting the said base plate independently of the crusher-frame, and whereon it can be withdrawn in a horizontal

Fig. 1.



plane from beneath the said frame, and the crusher-head shaft, substantially as described. 6th. The combination of a frame, a hopper constructed of outer and inner sections or rings, a gyratory shaft mounted in said frame, a crusher-head on said shaft, a spider also mounted on said frame, a base plate carrying the intermediate driving shaft, its gearing, and the actuating mechanism of the crusher, and anti-friction devices supporting the base plate independently of the crusher-frame, and whereon it can be withdrawn in a horizontal plane from beneath said frame and crusher-head shaft, substantially as described. 7th. The inclined diaphragm chute formed of a base portion having a tubular extension and a removable chilled iron or steel wearing portion, consisting of three separable parts, the upper part forming a continuation to the two power parts, substantially as described. 8th. The combination with the crusher casing, of an inclined diaphragm chute having a tubular extension and formed of a base portion, and a removable wearing portion consisting of a ridge-shaped rear part and two forward parts adapted to be overlapped by the ends of the said rear part, substantially as described. 9th. The inclined diaphragm chute formed of a base portion and a removable wearing portion, consisting of three self-locking parts, one of which is ridge-shape and overlaps the others, substantially as described. 10th. The inclined diaphragm chute formed of a base portion and a removable wearing portion consisting of separable parts one of which is ridge-shaped, substantially as described. 11th. In a gyratory-stone crusher or breaker, the combination of a supporting frame, a crushing concave, a bearing box above the concave, an upper fulcrum near the lower end of said box, and a support for a gyratory-shaft, above said fulcrum, the said shaft having an upper journal end and a suspending means attached thereto, said suspending means resting on the said support and having freedom to follow the gyrations of the journal end of the shaft, without changing its altitude, and the said suspending means, bearing-box and support, being so shaped relatively, that while the machine is crushing, a tapered space is formed all around between the periphery of the said journal end and the inner wall of said bearing-box except at the point of contact of the journal end with said wall, and at the same time a parallel contact is maintained between the journal end and the bearing-box, and the journal end of the shaft has, practically, an unchanging fulcrum bearing-contact between the crusher-head and the suspending device, and thereby one fulcrum is made to serve for the crusher-head, and also the lever end which moves the suspending means, substantially as described. 12th. In a gyratory-stone breaker, the combination with the frame, of a gyratory-shaft carrying a crusher-head, mechanism for gyrating said shaft, a concave, supporting, bearing cap attached to said shaft, a convex bearing ring mounted in the frame and arranged to fit within and support said cap, but allow it free lateral movement, substantially as described. 13th. In a gyratory-stone breaker or crusher, the combination with the frame, of a gyratory-shaft carrying a crusher-head, and tapered at its upper end, a cylindrical casing inclosing said tapered end, a supporting bearing for said shaft located above the fulcrum point of the same and mechanism for gyrating said shaft, substantially as described. 14th. In a gyratory-stone crusher, the combination with the frame, of a gyratory-shaft carrying a crusher-head, mechanism for gyrating said shaft, a concave supporting bearing cap attached to said shaft and provided with an annular oil channel on its under side and with vertical oil passages communicating with the same, and a convex bearing ring provided with vertical and radial oil channels, substantially as described. 15th. In a gyratory-stone crusher, the combination with a frame, of a gyratory-shaft carrying a crusher-head and having a tapered upper end, mechanism for gyrating said shaft, a concave supporting cap attached to said shaft, a convex bearing ring supporting the same, washers supporting said ring and resting in a recess of the frame, said bearing ring, washers and frame forming part of a cylindrical passage for receiving the tapered end of said shaft, substantially as described. 16th. In a gyratory stone-crusher, the combination with the frame, of a gyratory-shaft carrying a crusher-head, mechanism for operating said shaft, a bearing support for said shaft consisting of two members, one mounted on the shaft and the other in the frame, said members being so arranged that the bearing surfaces between them are, at all points, an equal distance from the centre of the fulcrum line of the shaft, substantially as described.

No. 47,653. Railway Switch. (*Aiguille de chemin de fer.*)

Fig. 3

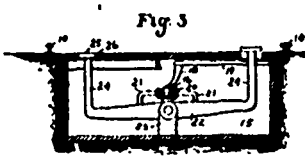
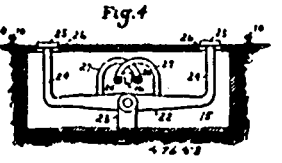


Fig. 4



William C. Dillman, Brooklyn, New York, U.S.A., 10th December, 1894; 6 years.

Claim.—1st. A switch mechanism, comprising the switch-point, a longitudinally extending lever 16 pivoted between its ends and pivotally connected at one end with said point, the opposite shorter end of the lever having its opposite sides inclined downwardly and inwardly, a support beneath said inclined end, a transverse lever 22 pivoted centrally to said support and provided with arms on its upper side at opposite sides of its pivot, said arms projecting toward the said inclined sides and provided with anti-friction rollers in engagement therewith, one roller to run up one incline to operate the lever while the other roller runs down the opposite lever to permit such operation, arms projecting up from the ends of the lever 22 and provided at their upper ends with contact plates working in openings in the road-bed, substantially as described.

No. 47,654. Railway Switch. (*Aiguille de chemin de fer.*)

Fig. 3

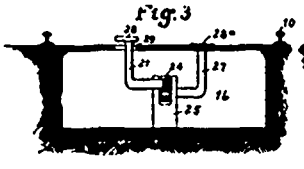
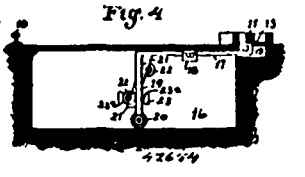


Fig. 4



William C. Dillman, Brooklyn, New York, U.S.A., 10th December, 1894; 6 years.

Claim.—1st. In a railway switch, the combination of the track, the switch-point, the forked tilting lever fulcrumed beneath the road-bed, the contact plates carried by the lever and arranged in the road-bed, the sliding shift-bar connected with the switch-point, and the inclined lugs on the shift-bar arranged in the path of the members of the fork, substantially as described. 2nd. In a railway switch, the combination of the vertically tilting lever, the swinging-switch point, the sliding shift-bar connected with the switch-point and extending beneath the road-bed, the shift-bar having a bent inner end with a roller at the foot, inclined lugs on the opposite sides of the bent end of the shift-bar, and a fork on the tilting lever to engage said lugs, substantially as described. 3rd. In a railway switch, the combination with the vertically tilting forked lever having the members of its fork bevelled, as specified, of the swinging switch-point, the sliding shift-bar connected with the switch-point and provided with a bent inner end, and the rollers arranged on opposite sides of the bent end of the shift-bar and in the path of the fork members, substantially as described.

No. 47,655. Middlings Purifier.

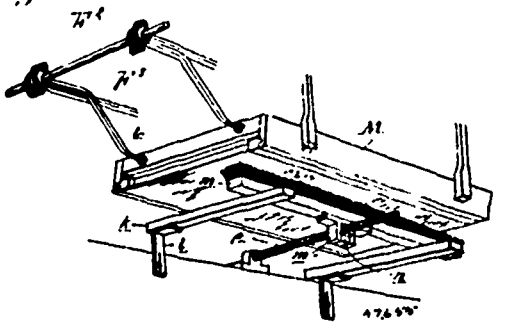
(*Epurateur des gruaux.*)

Edwin B. Whitmore and Lewis Emery, jr., both of Three Rivers, Michigan, U.S.A., 10th December, 1894; 6 years.

Claim.—1st. In a middlings purifier, the combination with a closed casing, an endless air passage therein, means for circulating the air through the passage, a hopper, a series of cant boards below the hopper in the path of the circulating air, a suction chamber, a valved passage leading thereto from the cant boards, a settling throat for the suction chamber, a separator in the air passage in advance of the cant boards, a partition in the form of a hopper located below the separator, an air inlet at the end of the partition, a valve controlling an opening between the space above the separator and suction chamber, and a dust settling chamber in the opposite end of the casing through which the air passes, substan-

tially as described. 2nd. The combination with a casing having an endless air passage therein, a fan for circulating air through the passage, a suction chamber, a partition in the casing, a separator in the passage below the partition, cant boards in the passage on the opposite side of the partition, a valve controlling the passage above

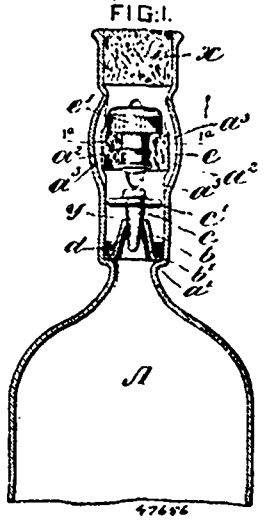
Fig. 4.



the partition, a hopper forming a partition below the separator, an air passage between the same and separator, a settling chamber between the same and settling chamber, and a discharge common to the dust collecting and settling chambers, substantially as described. 3rd. In a middlings purifier, the combination with closed casing having an endless air passage therein and a fan, of a series of cant boards, a hopper, a separator, a dust collecting chamber, a partition between the same and separator, the interposed partition H^2, a settling chamber below the separator, and an outlet for the dust common to the settling and collecting chambers, substantially as described. 4th. In a middlings purifier, the combination with a closed casing having an endless air passage therein and a fan for circulating the air in the passage, of a short circuiting passage, a movable separator located therein, means for moving the separator and valves controlling the passages, substantially as described. 5th. In a middlings purifier, the combination, with a feed hopper having a lateral discharge, a hinged gate valve over the discharge, a weight on the valve, a curved arm secured to the inner face of the valve and passing up through the throat of the hopper, and a plate secured to the upper end of the rod and arranged horizontally in the path of the grain, substantially as described. 6th. In a middlings purifier, the combination of a reciprocating screen, a hopper below the screen, having two conveyors at the bottom, a hopper slidingly adjustably secured beneath the screen and located in the other hopper, and the swinging valve S^2 to deflect the material passing through the adjustable hopper into either of the conveyors, substantially as described. 7th. In a middlings purifier, the combination of a reciprocating screen, horizontal bearings supporting the brush beneath the screen, the bifurcated bracket on the brush block, the block *n* detachably secured in the bifurcation, the pin *o* swivelled therein, and the shaft passing through the bracket and having reverse threads with which the pin engages, substantially as described.

No. 47,656. Bottle. (*Bouteille.*)

FIG. 1.

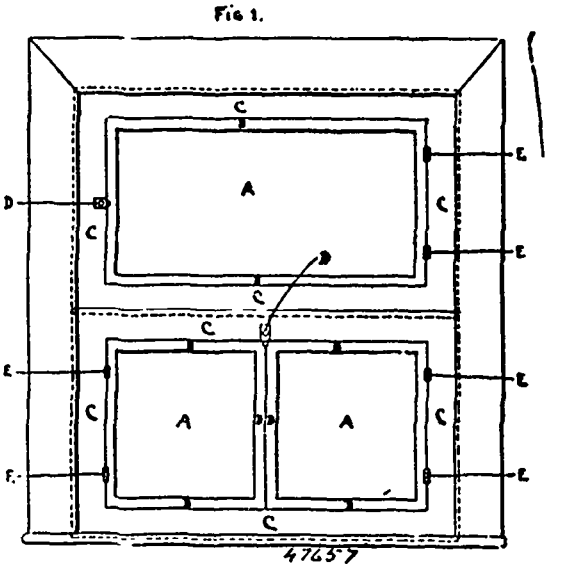


Henry Arthur Hayden, Jersey City, New Jersey, and Bernard Terance Kearns, New York, State of New York, all in the U. S.A., 10th December, 1894; 6 years.

Claim.—1st. The improved manufacture of a bottle which cannot be re-filled, or only with great difficulty, the same consisting of a bottle having a thimble-shaped valve-seat in the lower part of its neck, a headed or crowned valve seated in said valve-seat, an expanded stop-plug of cork in the neck above the valve, said plug having a glass crown as described, and a passage or passages about said stop-plug for the liquid to flow out through, as set forth. 2nd. The combination, with a bottle having a supporting ledge in its neck to receive a valve-seat, a cork-and-glass stop-plug fixed in its neck above said ledge, and passages for the liquid about said stop-plug, of the thimble-shaped valve-seat fixed in position on said ledge and having an annular space *y* around it, and the valve having a tapered stem or shank which occupies the apertures in the valve-seat, and a branched crown which fits loosely in the bottle-neck below the stop-plug, as set forth. 3rd. The combination, with the bottle having a ledge in its neck to support the valve-seat, a stop-plug in the neck above said seat, and a plug-valve as described, of the thimble-shaped valve-seat, provided with a base-flange to rest on said ledge, and the cork packing *d* which holds said valve-seat in place, as set forth. 4th. The combination, with the bottle, having in its neck the annular recess a^2, and passages a^3, of the cork stop-plug *o* fitted into said annular recess, the glass crown o^1, secured to said stop-plug, and a valve and valve-seat in the bottle-neck, below said stop-plug, substantially as set forth.

No. 47,657. Window. (*Fenêtre.*)

Fig 1.



William Farquhar, Montreal, Quebec, Canada, 11th December, 1894; 6 years.

Claim.—The combination of the Guillotine window frame closing and opening in a vertical way, and the hinged frame B, carrying the glass and opening in a horizontal circular-way, hung on Linges E E, and fastened on to the main frame by catches D D, substantially as and for the purpose hereinbefore as set forth.

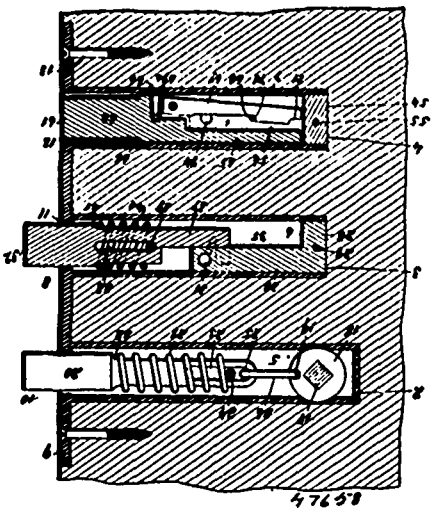
No. 47,658. Latch and Lock Combined.

(*Loquet et serrure combinés*)

John Murdie, Topeka, Kansas, U.S.A. 11th December, 1894; 6 years.

Claim.—1st. A combined latch and lock, comprising a cylindrical casing or barrel, a spring-actuated latch within said casing or barrel, and having a longitudinal slot therein, and a bolt engaging said slot, and a knob shaft and a disc mounted thereon, and a link pivotally connecting said disc with the rear end of the latch, substantially as set forth. 2nd. A combined latch and lock, comprising a casing or barrel, a latch within said casing or barrel having a cylindrical stem and an annular shoulder, and slotted, a cross-bolt engaging said slot and secured to the casing or barrel, and a spring bearing against the annular shoulder, and also bearing against said cross-bolt, and means to retract the latch, substantially as set forth. 3rd. A combined latch and lock, comprising a cylindrical casing or barrel, a guide-arm projecting from its rear end, a spring-actuated bolt in said casing, and having an arm and a notched plate at the inner end of said arm engaging the said guide-arm, and means to retract said arm engaging the said guide-arm, and means to retract said spring-actuated latch, substantially as set forth. 4th. A combined latch and lock, comprising a barrel or casing, a block or disc closing the inner end of said casing and having a guide-arm, a bolt in said casing having a slotted stem and an annular shoulder at the outer end of said stem, and a cross-bolt passing through said slot, and a spring bearing against the cross-bolt and the annular shoulder, and an arm extending rearwardly from the stem, and a notched plate at the inner end of said arm engaging the guide-arm, and a shoulder

formed at the junction of the stem and the arm against which the key is adapted to bear to retract the latch, substantially as set forth. 5th. A combined latch and lock, comprising a barrel or casing, a spring-actuated latch having a slotted stem within said casing, a cam-latch pivoted to said casing and having an arm adapted to



operate said cam-latch, so that it shall engage said slot or be disengaged from said slot, substantially as and for the purpose set forth. 6th. A combined latch and lock, comprising a barrel or cylinder, having an opening at one end and a shoulder surrounding said opening, a circular block or disc closing its inner or rear end, and parallel guide-arms or plates projecting from said block or disc, a bolt having a shoulder adapted to engage the first mentioned shoulder, and having grooves and a central tongue engaging the space between said parallel plates or arms of the disc or block, openings formed through said plates or arms, a lever pivoted in a recess in the lock and extending between said plates or arms, a spring bearing against said lever below its pivotal point, shoulders formed in said lever, and a cross-pin carried by said plates or arms and engaged by one or the other of said shoulders, substantially as set forth. 7th. A combined latch and lock, comprising a cylindrical casing or barrel having an open end, a block or disc closing the opposite end of said casing, and having parallel arms or plates, a cross-pin carried by said arms or plates and key-hole openings formed through said arms or plates, and key-hole passages formed through the door and casing or barrel in alignment with the key-hole openings of the parallel plates, a bolt located within said casing and having a tongue fitting between said parallel arms or plates, and recesses engaged by said arms or plates, and a spring-actuated lever having shoulders carried by said bolt and located between said arms or plates, and recessed in its sides, in combination with a key having a rounded or pointed end adapted to be passed through said openings, to pivotally operate the lever, and a projection upon said key adapted to engage shoulders at each side of the recesses formed in said bolt, so that said bolt may be advanced or contracted, substantially as set forth.

No. 47,659. Folding Chair. (*Chaise pliante.*)

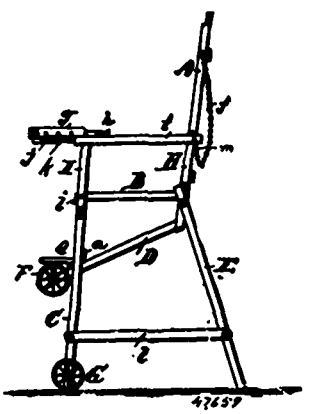
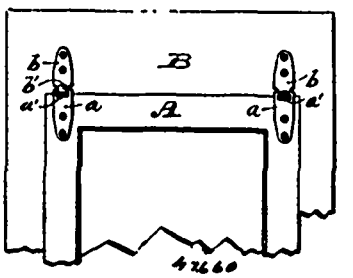


Fig. 1.

George T. Haswell, Fort Wayne, Indiana, U.S.A., 11th December, 1894; 6 years.

Claim.—1st. In a child's folding chair the combination of the standard H and I pivotally connected with the legs E and C, respectively, to which standards are rigidly attached, the arms *t*, the seat E, and the brace D, provided with the wheels F, and the movable back B pivotally connected with the standards H, with the legs C pivoted to the standards I and provided with the wheels G mounted thereon, the legs E pivotally connected with the standards H, and connected with the legs C by the pivotally mounted lateral braces *l*, all substantially as set forth and described. 2nd. The combination in a child's folding chair of a rigid seat B, having the standards H and I attached thereto with the forwardly projecting braces D attached to said standards H and I and having mounted thereon the foot rest *o* the back pivotally connected to the standards H and provided with retaining chains *f* with the legs C pivoted at their upper end to the standard I and having the wheels G upon the other end of said legs, and adapted for rearward extension, the legs E pivotally mounted on the sides of the standard H and adapted for rearward and upright extension to serve as handles for said chair, the braces pivotally connected to the legs C and E and the tray *g* adapted to be hinged to the standards I, all substantially as set forth and described.

No. 47,660. Storm Window, Etc. (*Contre-fenêtre.*)



Edward Jacob Fellman and William Romünder, assignees of Peter Poertner, all of Milwaukee, Wisconsin, U.S.A., 11th December, 1894; 6 years.

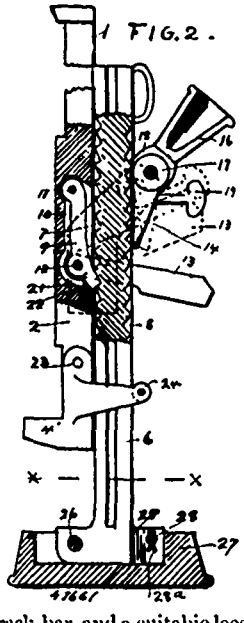
Claim.—1st. The combination with a window casing provided with a suitable loop or catch, of a storm-window, screen, blind, or analogous device movably secured to said casing, at one end, and a pivoted notch spring arm adjustably connecting the opposite end of said device with said loop or catch. 2nd. The combination with a window casing provided with a suitable loop or catch, of a storm-window, screen, blind, or analogous device suspended from said casing, and a notched spring arm pivoted to the lower part of said suspended device and having adjustable connection with said loop or catch. 3rd. The combination with a window casing provided with a suitable loop or catch, of a storm-window, screen, blind, or analogous device suspended from said casing, a notched spring arm pivoted to the lower part of said suspended device, and having adjustable connection with said loop or catch, and a dog pivotally connected to said casing, above said arm, for locking the same in its adjusted position. 4th. The combination with a window casing provided with a suitable loop or catch, of a freely movabe storm-window, screen, blind or analogous device suspended from said casing by separable hinges, the upper members of which are permanently secured to said suspended device, and a pivoted notched spring arm adjustably connecting the opposite end of said suspended device with said loop or catch. 5th. The combination with a window-casing provided with suitable loops or catches, of a storm-window, screen, blind or analogous device suspended from said casing and provided with inwardly projecting hooks or catches, and spring-arms pivoted to said suspended device on a plane below said hooks or catches, and having adjustable connection with the loops or catches on the casing and locking connection with the said hooks or catches on the said suspended device. 6th. The combination with a window-casing provided with a suitable catch, of a storm-window, screen, blind, or analogous device suspended from said casing, and provided with a catch intermediate of its length and a spring-arm pivoted to the said suspended device, and having locking engagement with the catches on both the casing and said suspended device.

No. 47,661. Lifting Jack. (*Cric.*)

Albion P. Aiken and George W. Nimon, both of Port Perry, Pennsylvania, U.S.A., 11th December, 1894; 6 years.

Claim.—1st. The combination with the vertically disposed rack-bar, of a vertically slidable lifting-bar loosely connected to said rack-bar, a pawl pivoted in a recess in the lifting-bar and adapted to engage adjacent teeth of the rack-bar, and means for actuating the lifting-bar. 2nd. The combination, with a vertically disposed rack-bar, of a vertically slidable lifting-bar loosely connected to the rack-bar and adapted to engage adjacent teeth of the rack-bar, a detent link for throwing the said pawl out of engagement with said teeth, and means for actuating said lifting-bar. 3rd. A lifting-jack, comprising a base-plate, a double-faced rack-bar pivotally connected thereto, a lifting-bar slidably connected to the rack-bar, a pawl pivoted to the lifting-bar and designed to engage adjacent teeth of the rack-bar, a detent link connected to said pawl and de-

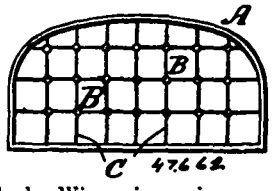
signed to enable its disengagement, a power applying lever controlling the movement of the lifting-bar, a pawl attached to said power lever and adapted to engage the adjacent teeth on the



opposite side of the rack-bar, and a suitable loose connection between the lifting and rack-bars. 4th. The combination with a double-faced rack-bar, of a lifting-bar slidably connected thereto, a pawl pivoted to said lifting-bar and capable of engaging the adjacent teeth of the rack-bar, a power supplying lever controlling the lifting-bar, and a gravity pawl attached to the lower lever and capable of engaging the adjacent teeth on the face of the rack-bar.

No. 47,662. Upholstering Device.

(*Appareil pour tapissiers.*)



Alfred Freshl, Oskosh, Wisconsin, assignee of Henry Bascom Pitner, Bloomington, Illinois, both in the U.S.A., 11th December, 1894; 6 years.

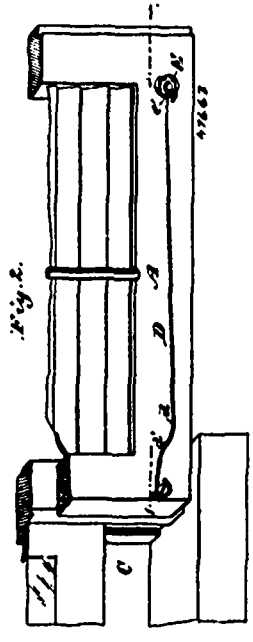
Claim.—1st. The combination of the mould A, provided with inter-connecting metallic strips C, provided with an opening at each intersection and forming chambers or intervals B, guide-box D, and follower E, provided with openings F, substantially as shown and for the purpose described. 2nd. The combination with the mould, of intersecting vertical strips provided with an opening at each intersection, a removable guide-box, a perforated follower, and means for holding the follower and mould upon opposite sides of the article to be operated upon, substantially as set forth. 3rd. The combination with the mould, of intersecting vertical strips provided with an opening at each intersection, removable blocks for forcing the fabric down between the strips, a removable guide-box, a perforated follower, and means for holding the follower and mould upon opposite sides of the article to be operated upon, substantially as set forth.

No. 47,663. Shutter Catch Release Device.

(*Appareil d'échappement pour contre-vent.*)

Edward Wegmann, Englewood, New Jersey, U.S.A., 11th December, 1894; 6 years.

Claim.—1st. A shutter and blind catch release device consisting of an elongated piece connected with said catch and having connection with said blind, substantially as set forth. 2nd. A shutter and blind catch release device consisting of an elongated flexible piece connected with said catch and having connection with said blind, substantially as set forth. 3rd. A shutter and blind catch release device consisting of an elongated piece movably connected with said catch and having connection with said blind, substantially as set forth. 4th. A shutter and blind catch release and closing device consisting of an elongated piece connected with said catch and having connection with said blind, substantially as set forth. 5th. A shutter and blind catch release device consisting of an elongated piece connected with said catch, a bend formed in said elongated piece and a connection formed between the said elongated piece and said blind, substantially as set forth. 6th. A shutter and blind catch release device consisting of an elongated piece having a hooked end to engage said catch, a bend formed in said elongated piece and a



connection formed between said elongated piece and said blind, substantially as set forth. 7th. An attachment for releasing the catch of a shutter or blind, consisting of an elongated piece having a bend, and a hook formed at each end of said piece, one of said hook engaging the said shutter or blind catch, and the other of said hooks having connection with said blind, substantially as set forth. 8th. A shutter and blind release device consisting of an elongated piece, a movable device connected with said elongated piece and with said catch, and a connection formed between said blind or shutter and said elongated piece, substantially as set forth. 9th. A shutter and blind release device consisting of an elongated piece, a bell-crank connected with said elongated piece and with said catch, and a connection formed between said piece and said blind, substantially as set forth. 10th. A shutter and blind release device consisting of an elongated piece connected with the shutter catch and projecting therefrom along the said shutter, substantially as set forth. 11th. A shutter and blind lock device consisting of a blind catch, and a connection formed between said catch and said blind, substantially as set forth.

No. 47,664. Butter Cutter and Mould.

(*Couteau et moule pour le beurre.*)

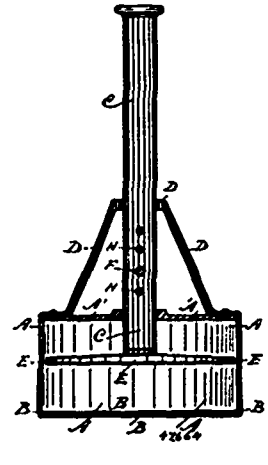


Fig. II.

Anthony W. Burke, Hamilton, Ontario, Canada, 11th December, 1894; 6 years.

Claim.—1st. In a butter cutting and moulding device, the combi-

nation of a vertical cylindrical cutter A, having one or more wires B fixed to and extending across its lower end, and a round or disc shaped press plate fitting within the said cylindrical cutter, all constructed and arranged substantially as described and for the purpose hereinbefore set forth. 2nd. The combination of the cylindrical cutter A, having one or more wires B fixed across its lower end, the press plate fitting within said cutter, having vertical handle c, and the guide plate A^1, with upper guide D, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, with the cutter A, having guide plate A^1, and guide D, of the press plate provided with vertical handle C, having adjustable stop pin F, substantially as and for the purpose hereinbefore set forth.

No. 47,665. Fastening Device. (*Appareil pour attacher.*)

Lemuel Herbert Morgan and Martin Nichol Todd, both of Galt, Ontario, Canada, 11th December, 1894; 6 years.

Claim.—1st. A fastening device, consisting of a piece of wire so bent that it may form two shanks with loops or reverse bends formed on the ends thereof, between portions of which loops the cord or retaining string is passed, the cord also passing over the shank on which the upper loop is formed and then beneath a portion of the under loop of the other shank, so that the tighter the strain on the cord, the more the upper loop is compressed on the under loop thus gripping the cord, substantially as described and specified. 2nd. A fastening device comprising the following elements:—eyelet B, shank C, shank D, loop E formed on shank C, loop F formed on shank D, the one loop overlying the other loop, substantially as described and for the purpose specified. 3rd. In a fastening device, the combination, with the cord H, of shank C, shank D, loop E formed on shank C, loop F formed on shank D, the one loop overlying the other so as to grip the cord between them when a strain is applied to the cord, substantially as described and for the purpose specified.

No. 47,666. Whiffletree. (*Palonnier.*)

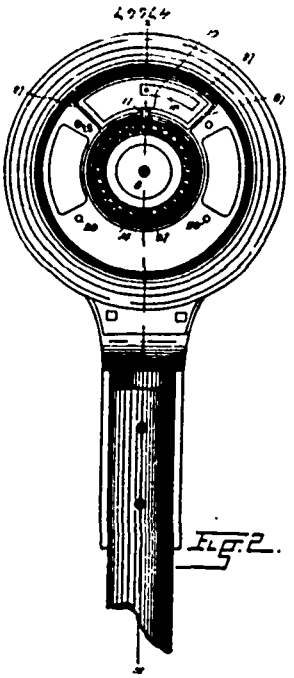
Edward J. Smith, Almont, Michigan, U.S.A., 11th December, 1894; 6 years.

Claim.—1st. In a spring whiffletree, the combination of a two part hollow whiffletree hinged together at its middle, a spring located within the cavity and secured to both of said parts, bolts secured to the ends of said spring, meeting and linked together between the ends thereof, whereby the expansive motion of said spring is limited, substantially as described. 2nd. In combination, with a two part whiffletree, hinged together at its middle point, a spring uniting the two parts and provided with means to prevent its undue expansion, a clevis provided with a concave standard, adapted to form a housing for the hinge, substantially as described.

No. 47,667. Ball Bearing. (*Coussinet à boule.*)

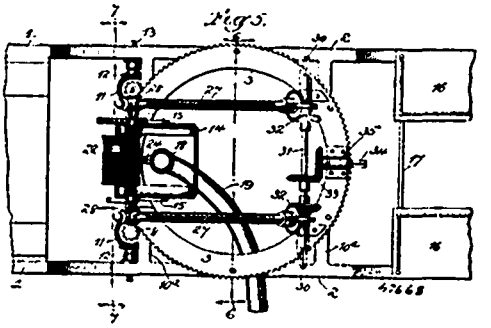
James W. Howard and Frederick P. Ellis, both of Denver, Colorado, U.S.A., 11th December, 1894; 6 years.

Claim.—1st. In a ball bearing, the combination of the axle having a spherical bearing surface, the part engaging said surface being shaped to receive the spherical part of the axle and provided with an interior recess surrounding said part, and small balls located in said recess and engaging the spherical part of the axle, substantially as described. 2nd. In a ball bearing, the combination of the axle having a spherical bearing surface, the hub of the wheel shaped to engage the spherical part of the axle and provided with a recess sur-



rounding said part, and small balls located in said recess and engaging the spherical part of the axle, substantially as described.

No. 47,668. Water Tower. (*Tour à eau.*)

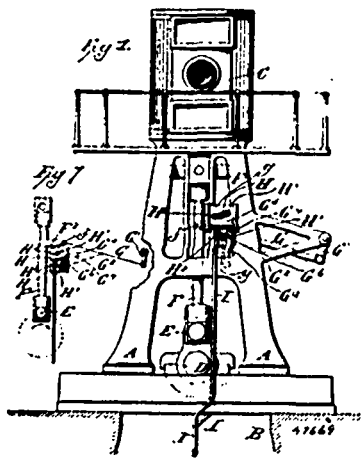


Ernst Frederic Steck, Chicago, Illinois, U.S.A., 11th December, 1894; 6 years.

Claim.—1st. The combination, with a carriage and a turn-table mounted thereon and having means for turning it, of a tower frame hinged to said turn-table at its outer edge, rods for bracing and lifting said frame, mounted on said turn-table and engaging with said frame, an extensible pipe mounted in said frame and having a nozzle fixed with relation to and adapted to turn with said turn-table and being permanently confined to oscillate or bend in an upright plane extending transversely of the hinge at the base of the tower frame and lengthwise of said brace and lifting rods, whereby the tower frame may be inclined in any direction to resist the recoil, and the strain resulting from the weight of the frame and such recoil will invariably be exerted lengthwise of said brace and lifting rods, substantially as set forth. 2nd. The combination, with a turn-table and a tower frame hinged thereon and having means for raising it, of an extensible stand-pipe mounted in said frame and having a spline or feather, rollers mounted in said frame for holding and guiding said pipe, one of said rollers being provided with a groove for receiving said spline, and a nozzle fixed on said pipe against independent rotation, substantially as set forth. 3rd. The combination, with a turn-table and a tower frame hinged thereon, of an extensible stand-pipe arranged in said frame and being provided with a spline or feather, two series of rollers mounted in said frame near the upper end thereof and having peripheries complementary in shape to and fitting against said pipe, a number of said rollers being provided with grooves for the reception of said spline, and the two series being arranged at such a distance apart as to hold the pipe rigidly within the tower frame and away from the sides thereof, and a nozzle fixed to said pipe against independent rotation, substantially as set forth. 4th. The combination, with the carriage and a turn-table having means for turning it, mounted on said carriage, of a tower frame hinged to said turn-table at its outer edge or peri-

meter at a point remote from the centre thereof, a stand-pipe in said frame, adapted to be attached to a hose and being fixed against independent rotation, a flexible nozzle on said stand-pipe fixed against independent rotation, means for erecting said tower frame, mounted upon the opposite side of said turn-table, said turn-table being open under the base of said stand-pipe, and the space beneath the turn table being unobstructed whereby the hose depending from said stand-pipe may describe a complete circle when the turn-table is rotated, substantially as set forth. 5th. The combination of the carriage frame having the cross members 10 turned outwardly or away from each other, an annular turn-table mounted upon said frame and cross-members and being open or unobstructed underneath, a tower frame hinged to said turn-table at its outer edge, a stand-pipe in said frame, adapted to be attached to a hose, means for raising said tower frame mounted upon the opposite side of said turn-table, said cross-members being turned outwardly or away from one another under the line of movement of the base of said stand-pipe, and the base of the stand-pipe being arranged directly over the opening under the turn-table whereby the hose may pass up through the turn-table and revolve therewith without obstruction, substantially as set forth. 6th. The combination with the truck, of a turn-table mounted thereon, and having a cog-ring, a tower hinged to said turn-table a shaft journalled on said turn-table and having winding stems projecting from both sides thereof, screw rods pivoted on said turn-table and being geared to said shaft and having connection with said tower, a supplemental winding stem journalled on said turn-table intermediate of said first winding stems, and being geared to said shaft and adapted to turn said screw rods simultaneously, substantially as set forth.

No. 47,669. Pump. (*Pompe.*)



The Southwark Foundry and Machine Company, assignee of William E. Good, all of Philadelphia, Pennsylvania, U.S.A., 11th December, 1894; 6 years.

Claim.—1st. A slide valve for pumps consisting of a series of separate cross-bars *l*, secured together as described, and so that each section can move independently to or from its seat. 2nd. A slide valve for pumps consisting of a series of separate cross-bars *l*, having perforations l^3, in combination with a rod I, of less diameter than the height of the perforations l^3, said rod tying the sections together, while permitting independent movement to and from the valve seat. 3rd. A slide valve for pumps consisting of a series of separate cross-bars *l*, having projecting end pieces l^4, forming lap joints l^1, with similar parts of abutting end pieces, and having perforations l^3, in combination with a tie rod I, passing through perforations l^3, and securing the sections together while permitting independent movement of each section to or from the valve seat. 4th. In a pump, a chamber having admission and delivery valves L L^1, arranged to slide over ports in their seats and each having bearings so arranged as to permit them to rise from their seats in the direction in which the fluid flows through them, in combination with a piston working in the pump chamber and mechanism positively actuated and arranged to actuate said valves alternately in a fixed relation with the motions of the piston, and so that each valve will remain over its seat in position to close the orifice until the piston has begun its motion to suck in, or force out fluid, to or from the chamber, said *valves first rising from their seats and then moving longitudinally* to open the port in the same. 5th. In a pump, a chamber having admission and delivery valves L L^1, arranged to slide over ports in their seats, and each having bearings adapted to lift them positively from their seats, in combination with a piston or plunger working in the pump chamber, and mechanism positively moved and arranged to actuate said valves alternately in a fixed relation with the motions of the piston or plunger, and so that each valve will remain over its seat in position to close the orifice until the piston or plunger has begun its motion to draw fluid into, or force it from the chamber, said valves being first lifted from their seats and then moved longitudinally to open the ports in the same. 6th. In a pump, admission and discharge slide valves L L^1, each made of a series of sections *l*, independently movable to and from their seats, and each valve having back bearings placed so as to permit them to rise from their seats in the direction in which the water flows through them and positively actuated mechanism arranged to actuate said valves alternately, and so that each valve will remain over its seat in position to close the orifices until lifted therefrom by the incoming or outgoing current of water. 7th. In a pump having chambers J J^1, and a plunger N^1, admission and delivery ports J^4, J^5, in each chamber arranged so that the admission and delivery ports of chamber J, will be respectively on the same side as the delivery and admission ports of chamber J^1, in combination with slides valves L L^1, having back bearings arranged to permit said valves to move away from their seats in the direction in which the water flows through them, said valves being secured together in pairs so that they will simultaneously open the admission port of one chamber and the delivery port of the other, and positively actuated mechanism arranged to actuate the two pairs of valves alternately. 8th. In a pump, the combination of chambers J J^1, separated by a space J^2, a plunger N^1, working in said chambers and through said space a series of slotted delivery ports formed in valve seats J^5, in each chamber, said delivery ports being on opposite sides of the chambers J and J^1, similar slotted admission ports J^4, arranged in each chamber on relatively opposite sides, castings K K, secured to the respective chambers registering with the admission and delivery passages respectively, and castings having a diaphragm K^1, separating them into chambers K^5 and K^6, slides L L^1, arranged in pairs and secured together so as to simultaneously open and close the admission ports of one cylinder and the delivery ports of the other, said valves having back bearings arranged to permit a movement to and from their seats, and means for actuating said valve as described. 9th. In a pump, the combination of chambers J, J^1, separated by a space J^2, a plunger N^1, working in said chamber and through said space, a series of slotted delivery ports formed in valve seats J^2, in each chamber, said delivery ports being on opposite sides of the chambers J and J^1, similar slotted admission ports J^4, arranged in each chamber on relatively opposite sides, castings K, K, secured to the respective chambers registering with the admission and delivery passages respectively, said chambers having a diaphragm K^1, separating them into chambers K^5 and K^6, said diaphragm being arranged to form air chambers K^2, in the admission and delivery conduits, slide valves L, L^1, arranged in pairs and secured together so as to simultaneously open and close the admission ports of one cylinder and the delivery ports of the other, said valves having back bearings arranged to permit a movement to and from their seats and means for actuating said valves as described. 10th. In a pump, the combination with a steam cylinder, of a piston rod, a crank-shaft and a pump operatively connected therewith, a connecting rod joining the cross-head and the crank, a lever G, pivoted to the connecting rod at points other than those at which it is pivotally attached to the cross-head and crank and actuated thereby, a slide valve working over the port of the pump, and mechanism for transferring motion as described, whereby the motion of an intermediate point on the lever G, may be transmitted to the slide valve. 11th. The combination with a pump, slide valves L, L^1, having back bearings arranged to permit them to move away from their seats in the direction of the current through them, a rock-shaft G^4, having lever arms G^5, G^6, arranged at different angles, cross-heads H, H, connected with the admission and delivery valves respectively, and provided with oppositely arranged cam grooves H^1, H^2, as described, said grooves being each engaged by a pin from one of the levers G^5, G^6, and means for actuating shaft G^4, actuated by moving parts of the pump. 12th. In combination with a pump, slide valves L, L^1, having back bearings arranged to permit them to move away from their seats in the direction of the current through them, a rock-shaft G^4, having lower arms G^5, G^6, arranged at different angles, cross-heads H, H, connected with the admission and delivery valves respectively, and provided with oppositely arranged can grooves H^1, H^2, as described, said grooves being each engaged by a pin from one of the levers G^5, G^6, a connecting rod arranged to connect the piston and crank-shaft of the engine, a lever G, connected to said rod and pivoted to a link or guide as described, a rod G^2, pivoted to said lever G, and connected to an arm G^7, of the rock-shaft.

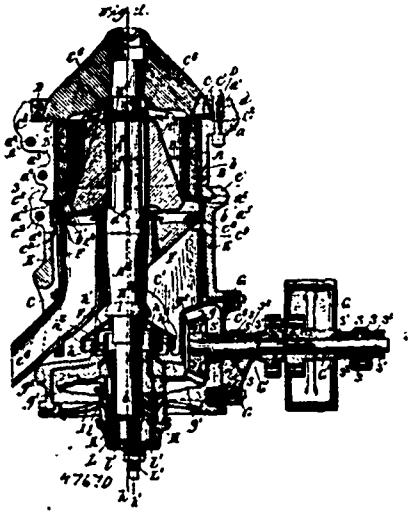
No. 47,670. Stone Crusher.

(*Machine à broyer la pierre.*)

The Gates Iron Works, assignee of Philetus Warren Gates, Charles Lewis Carman and Elmer Elsworth Hanna, all of Chicago, Illinois, and Isaac Marshall Van Wagner, Nyack, New York, all in the U.S.A., 12th December, 1894; 6 years.

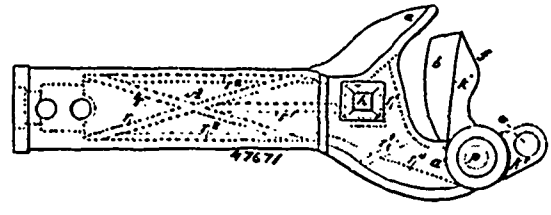
Claim. 1st. The combination of a shaft, a cap surrounding the shaft provided with downwardly extending flanges, a portion of the shell surrounding the shaft beneath the cap provided with flanges extending upwardly and forming with the downwardly extending flanges of the cap, a fluid seal, and the upper wall of a chamber adapted to contain actuating mechanism and a lubricant, and actuating mechanism inclosed in such chamber within the shell, where it is hermetically sealed and protected from the ingress of water, dust

and other foreign substances and submerged in a lubricant, substantially as described. 2nd. The combination of a gyrating-shaft, an eccentric box surrounding the journalled end of the shaft, a step block within the eccentric box supporting the shaft, and means for supporting the step block, substantially as described. 3rd. The combination of a gyrating-shaft, an eccentric box surrounding the journalled end of the shaft, a step block within the eccentric box supporting the shaft, and means for supporting the step block and



vertically adjusting it with the shaft and parts carried by it, substantially as described. 4th. The combination of a gyrating-shaft, an eccentric box surrounding the journalled end of shaft, a removable step block arranged within the eccentric box supporting the shaft and arranged with its vertical axis in line with the vertical axis of the shaft, and a lifter screw for supporting the step block arranged with its vertical axis eccentric to the vertical axis of the step block and shaft and in line with the vertical axis of the machine, substantially as described. 5th. The combination of a gyrating-shaft, actuating mechanism for gyrating the same, a chamber inclosing the actuating mechanism containing a top through which the shaft enters, a removable bottom, and a removable side provided with a horizontal bearing through which the means for actuating the mechanism enters, substantially as described. 6th. In stone breakers and ore crushers, the combination of a frame provided with several openings in its lower portion, crushing mechanism arranged within the frame and having its operating mechanism adjacent to such openings, intermediate driving mechanism engaging with such operative mechanism and arranged to enter the crusher frame in line with one of its openings, and the discharge chute-diaphragm adjustably secured therein, so that its discharge end may be led through either of the idle openings in the crusher frame, whereby the relative position of such discharge chute-diaphragm and the intermediate driving mechanism may be changed, substantially as described. 7th. A crusher concave constructed of hard metal portions and with relatively softer metal strips of wrought or malleable iron, applied where the sections of the concave adjoin, so as to form portions of the wearing surface and serve as the means for protecting the corners of the edges of the same, substantially as described. 8th. The combination with hard metal wearing surfaces of the concave, of relatively softer metal strips applied between the adjoining sections and at the bottom of the lower section, so as to become battered down at the edges of the said sections, and thus protect them, substantially as described. 9th. The combination with hard metal wearing surfaces of a concave, of relatively softer metal strips applied between the adjoining sections and at the top of the upper section, substantially as described. 10th. The crusher head and gyratory-shaft of a stone breaker or crusher, constructed and keyed together as herein described and shown so that the crusher head is free to settle as necessity requires after the machine has been put in operation, substantially as described. 11th. The gyratory-crusher, a gyrating-shaft having a taper from below the crusher head towards its upper end for receiving the crusher head, and said tapered portion provided with one or more key seats of such length that they form a settling space or spaces below the key or keys, and which are parallel to the taper of the shaft, in combination with a crusher head provided with a key seat or seats coinciding with the key seat or seats in the shaft, and with a key or keys of less length than the keys in the key seats, and having projecting edges and faces which are parallel with the surfaces of the key seats in the shaft, substantially as described. 12th. The combination of a crusher head, a gyratory-shaft having a taper from below the crusher head towards its upper end, the head and shaft being provided with key seats, those of the shaft extending down lower than those of the head, metal bearing strips of the head projecting into the bore of the head, and keys entered into the key seats of the head and shaft, and having a loose fit in the key seats of the shaft, substantially as described. 13th. The combination of the gyratory-shaft having a taper from below the crusher head toward its upper end, and provided with differential screw threads above its tapered portion, and formed with key seats in its periphery parallel with said tapered portion, and of greater length than the keys by which the head is held from turning, a crusher head having spaced metal bearing strips projecting into its bore metal keys of less length than the key seats in the shaft, and entering into the key seats of the head and shaft, and having a smooth loose fit within the key seats of the shaft, and confining nuts screwed on the differential threads of the shaft, substantially as described. 14th. The means herein described for keying a crusher head to a gyratory-shaft, the same consisting in one or more retaining key seats in the head and one or more smooth key seats in the shaft, the key seats in the shaft being parallel with the projecting edges and faces of the keys and of greater length than the keys which hold the head from turning, and keys formed of metal flowed in molten state against the retaining surfaces of the key seats in the head and against the smooth surfaces of the key seats in the shaft and against removable plugs at the bottom of the seats, substantially as described. 15th. In a stone breaker or crusher, a shaft box provided with babbitted surfaces having reversely inclined channels and annular channels, all in communication with one another, substantially as described. 16th. A stone and ore crusher comprising an upper split shell, a lower split shell, means for tightening up and uniting the respective shell portions, a gyratory-shaft carrying a crusher head, hard metal surfaces on the inner side of the upper shell, a mechanism for gyrating the gyratory-shaft, and a shiftable chute diaphragm, substantially as described.

No. 47,671. Car Coupler. (*Attelage de chars.*)



Otto Flohr, Buffalo, New York, U.S.A., 12th December, 1894; 6 years.

Claim.—1st. In a car coupler, the combination with a draw-head, having a knuckle with a bevelled arm hinged to it and the knuckle gliding with a curved projecting edge on a stopping spiral way, of a sliding locking pin having a bevelled edge to engage the bevelled arm of the knuckle, this bevelled arm raising automatically the pin when driven against it, and the pin dropping back in its position when the arm of the knuckle had cleared it and locking this arm between the wall of the draw-head and the adjoining vertical side of the pin. 2nd. In a car coupler, the combination with a draw-pivot, of a stop on its inner wall and of a corresponding spiral notch on the knuckle terminating in a stop-face, arranged to strike against the stop and stop the knuckle in its outward swing when it had reached its proper position. 3rd. In a car coupler, the combination with a draw-head, having a knuckle hinged thereto and swinging on a pivot, and a sliding pin adapted to arrest the bevelled arm of the knuckle when it had swung beyond the pin, of ribs provided on the inner wall of the draw-head in the place where the arm of the knuckle strikes, to take up the force of the stroke and to tighten the lock of the arm of the knuckle between the wall of the draw-head and the locking-pin. 4th. In a car coupler, the combination with a draw-head, having a knuckle hinged thereto and swinging on a pivot, a sliding pin adapted to automatically lock the coupler when the arm of the knuckle is driven forcibly against the pin, of cross-wise and longitudinally arranged ribs to take up the effects of the stroke, the strains on the draw-heads in curves and switches and strengthening the bearing of the locking-pin.

No. 47,672. Ironing Table, &c. (*Table à repasser, etc.*)

Herbert G. Rounds, West Bay City, Michigan, U.S.A., 12th December, 1894; 6 years.

Claim.—1st A new article of manufacture, a combined step ladder, ironing table, and wash bench, consisting of the ladder, the folding shelf provided with hooks B^{11}, and notches B^{11} on the inner end, and an excentric roller across the outer end, stay straps C, C, and the secondary frame D pivoted to the rear legs of the ladder, and the board, substantially as described. 2nd. The combination, with a step ladder provided with a folding shelf having hooks upon its inner end to engage the ladder and hold it, an excentric roller upon its outer end, and the stay straps C, C, of the board E adapted to rest across the upper step of the ladder with one end under the roller, substantially as set forth. 3rd. The combination, with a step ladder having a shelf having its inner ends notched at B^{11} for engaging one of the steps of the ladder, of the supplemental bars D pivoted to the lower ends and within the rear legs of the ladder, and having their free ends notched for engaging the lower step of the

ladder, as and for the purpose set forth. 4th. The combination, with a step ladder having a shelf near the upper end thereof, the said shelf having its inner ends notched at B^{11} for engaging one of

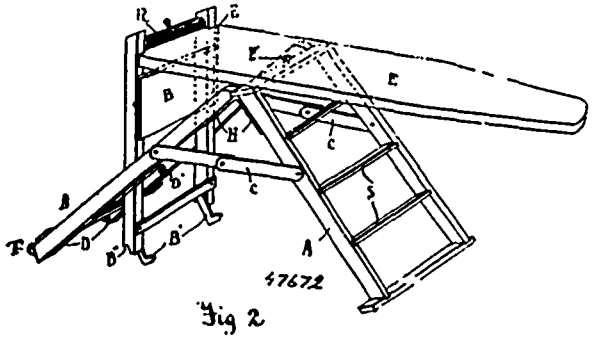
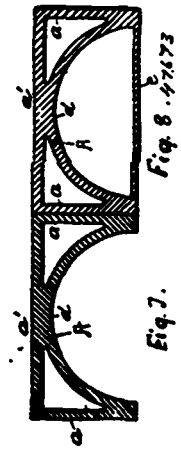


Fig 2

the steps of the ladder, the supplemental bars D pivoted to the rear legs of the ladder near the lower ends thereof, and having their inner ends notched for engaging the lower step of the ladder, and the rollers T upon the lower ends of the legs of the ladder, as and for the purpose set forth.

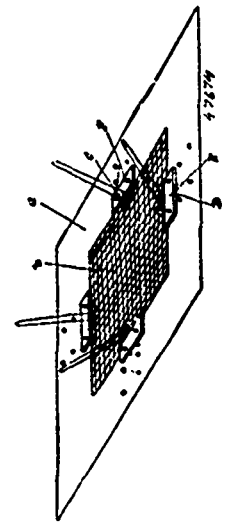
No. 47,673. Floor. (*Plancher.*)



Edmond Molloy, Philadelphia, Pennsylvania, U.S.A., 12th December, 1894; 6 years.

Claim.—1st. The combination of a beam having a vertical web constructed entirely of sheet material and separate blocks having vertical plane face fitting against the web and clamping it between such faces, said beams, substantially as described. 2nd. The combination of beams having vertical web portion constructed entirely of sheet material and provided with flanges at the bottom and blocks provided with perpendicular faces fitting against this web and clamping it between them, said blocks resting on the flanges at the bottom of the web, substantially as described. 3rd. The combination of beams having a vertical web portion composed entirely of a sheet metal and a flange portion on which the blocks forming the floor can rest, and blocks provided with vertical faces parallel with said web and floor surfaces connected with said vertical faces and extending from one beam to the next, substantially as described. 4th. In a floor, beams composed of a vertical web entirely of sheet material and substantially horizontal flanges reinforced by a stiffer strengthening material, substantially as described. 5th. The combination of beams having a vertical web formed entirely of sheet material, supports for said beams, said supports being portions of said beams for the individual portions of said floor and a flooring material provided with clamping faces fitting close against said vertical web, substantially as described. 6th. In a floor supported by girders having vertical webs of sheet material and supports for the flooring portions secured to said web blocks extending between said girders said blocks having flooring surface a^1, and a surface a lying close up against the web of the beam, substantially as described. 7th. A floor provided with supporting beams composed of sheet material, and having the strength giving portions of said beams formed of a vertical web solely of said material and having flanges at the bottom of said beams formed by wrapping the sheet material around a piece of stiffer material, substantially as described. 8th. The combination in a floor, of girders provided with vertical webs and blocks extending directly between the girders, and having a plane surface a lying close up to the metal web of the girder and supports a reinforcing said surface, substantially as described. 9th. A floor formed with beams which are provided with flanges and blocks having the parts away from the points of junction with the web turned up toward the upper floor surface, substantially as described. 10th. A floor provided with a beam having a vertical web portion formed of plural sheets of sheet material, and a flooring portion having vertical faces clamping said web portion of the beam, substantially as described.

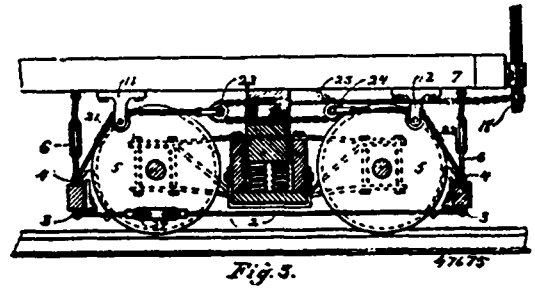
No. 47,674. Spark Arrester. (*Arrête-étincelle.*)



Albert F. Murchie, Kirkland, New Brunswick, Canada, 12th December, 1894; 6 years.

Claim.—1st. The combination of plate A, and wire gauze B, of plate E, and spring C, substantially as and for the purpose hereinbefore set forth. 2nd. The combination with plate A, wire gauze B, plate E, and spring C, substantially as and for the purpose hereinbefore set forth.

No. 47,675. Car Brake. (*Frein de chars.*)

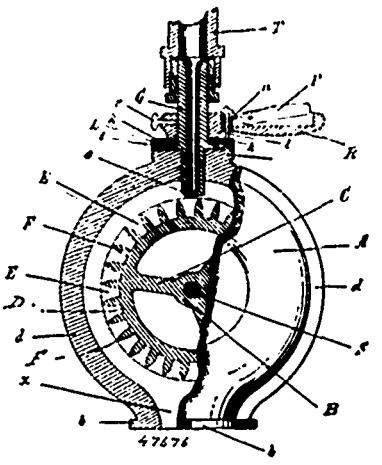


Clarence W. Carter, Minneapolis, Minnesota, U.S.A., 12th December, 1894; 6 years.

Claim.—1st. The combination, with the truck wheels, of the brake-shoes and their beams, a rod or rods immovably connecting and relatively fixing said beams, means for moving said shoes into engagement with the wheels, and means for taking up the wear in the shoes, substantially as described. 2nd. The combination, with the truck wheels, of the brake-shoes and their beams, a rod or rods immovable connecting said beams, means for moving said shoes into engagement with the wheels, and automatic means for taking up the wear in the shoes, substantially as described. 3rd. The combination, with the truck, of the opposite and relatively fixed brake-shoes situated between the pairs of wheels, hangers for the same, and a take-up connected with and for moving the opposite shoes into engagement with the wheels, whereby the same are semi-automatically set, substantially as described. 4th. The combination, with the truck of the relatively fixed brake-shoes and beams situated between the pairs of wheels, hangers for said beams, and a take-up for lifting the shoes into engagement with the wheels, substantially as described. 5th. The combination, with the truck, of the brake-shoes and beams situated between the pairs of wheels, of the truck, hangers for said beams, and a take-up loop for moving the pairs of shoes into engagement with the wheels, and having its ends secured upon opposite brake beams, sheaves for supporting the upper part of the loop, and a bell crank arranged in connection with one of the sheaves, and means for operating the bell crank, substantially as described. 6th. The combination with the truck, of the brake-shoes, and the beam or beams belonging thereto, a rod or rods immovably connecting said beams, supports for said beams, and a bell crank device for moving the pairs of shoes into engagement with the brake wheels, substantially as described. 7th. The combination, with a car truck, of the brake-shoes, a rod or rods connecting and relatively

fixing the same, hangers therefor, means for moving the whole to set the shoes, said rod or rods having threaded ends, ratchet nuts thereon, a jawl or pawls to engage said ratchet or ratchets, and connected with a fixed part of the truck, whereby the operation of the brake results in the automatic adjustment of the shoes to take up wear, substantially as described. 8th. The combination, with the truck, of the brake-shoes belonging to the wheels in opposite pairs, said shoes being relatively fixed and normally supported but both shoes adapted and free to be moved towards the plane of the wheel axles, and means for vertically moving either one of said shoes or both against their wheels, whereby the frictional engagement of one shoe with its wheel and tending in the same direction as the vertically moving force, assists in setting both shoes against their wheels, all without regard to the direction of rotation of the wheels, substantially as described. 9th. The combination, with the truck, of the brake-shoes, of the two pairs of wheels, all of said brake-shoes being relatively fixed with respect to the movement towards or from one another, means for normally supporting said shoes, and means for moving either or both pairs of shoes into engagement with the wheels, whereby all the shoes are set against the wheels, substantially as described. 10th. The combination, with the truck, of the shoes, with the supports for said shoes adapted to limit the vertical movement of said shoes away from the wheels, but not limiting vertical movement towards the same, and means for moving the shoes of either pair of wheels or of both pairs into engagement therewith, substantially as described. 11th. The combination, with the truck, of the relatively fixed brake-shoes, supports for said shoes adapted to limit the vertical movement of said shoes away from the wheels, but permitting unlimited vertical movement towards the same, and means for moving the shoes of either pair of wheels or of both pair into engagement therewith, substantially as described. 12th. The combination, with the truck, of the brake-shoes, with supports therefor, said shoes being relatively fixed with respect to movement towards or from one another, means for moving the shoes into engagement with the wheels, and automatic means for taking up wear in the shoes, substantially as described. 13th. The combination, with the truck, of the brake-shoes and beams, supports therefor, the rod or rods connecting and passing through said beams, locking nuts securing the ends of the rod or rods in said beams, and a take-up for moving the shoes into engagement with the wheels, substantially as described. 14th. The combination, with the truck, of the brake-shoes belonging to opposite wheels upon the same side of the truck, said shoes being relatively fixed, supports for said shoes, and a take-up connected with the shoes, and, with said supports, adapted to permit the see-saw movement of the brake-shoes with the relatively fixing device, whereby either shoe may be moved towards the plan of the wheel axles, substantially as and for the purpose specified. 15th. The combination, with the truck of the brake-shoes belonging to the wheels thereof, a brake-frame relatively fixing all of said shoes, supports for said brake-frame adapted to permit the see-saw movement thereof, caused by a change in the running direction of the wheels at the time of setting the brake, and a take-up for moving said shoes into engagement with the wheels regardless of the running direction thereof, substantially as described. 16th. The combination, with the truck, of the brake-shoes and beams belonging thereto, with the rod 2, connecting said brake-beams, and means for lifting one pair of said shoes into contact with the wheels, whereby the other pair of brake-shoes is drawn into engagement with the wheels adjacent thereto, substantially as described. 17th. The combination, with a car-truck, and the wheels thereof, of the brake-beams and brake-shoes to engage said wheels, hangers for said brake-beams, a rod 2 adjustably connecting said brake beams and extending beneath the axles of the truck, and means for lifting either one of the beams and its shoes whereby the other shoes are set, substantially as described. 18th. The combination, with the wheels and the axles, of means for mounting the car thereon, the brake-beams and brake-shoes arranged thereon to engage said wheels, a rod extending beneath the axles and connecting said brake-beams, fixed sheaves or pulleys 11 and 12, chains passing from said beams over said sheaves, and a manual take-up connected with the upper ends of said chains, substantially as described. 19th. The combination, with the wheels and their axles, of the frame arranged thereon, the car-body secured upon said frame, springs being interposed, the brake-beams and brake-shoes to engage said wheels, hangers extending from said car-body to support said beams, a rod 3 extending beneath the axles and connecting said beams, and means for raising either of said brake-beams and its shoes, substantially as described. 20th. The combination, with the car-body, of the wheeled truck whereon said body is mounted, the brake-beams and brake-shoes to engage the wheels thereof, a rod 2 connecting said brake-beams, hangers for said beams, sheaves 11 and 12 fixed upon the car-body, a chain loop having its sides extending over said sheaves and its ends extending to and secured upon opposite brake-beams, a sheave 13 engaging the end of said loop, and means for drawing out said sheave to raise said shoes, substantially as and for the purpose set forth. 21st. The combination, with the car-body, of the wheeled truck whereon the same is arranged, the brake-beams and brake-shoes to engage the wheels of said truck, an adjustable connecting rod 2 extending between said brake-beams, hangers for said beams, fixed sheaves 11 and 12, a chain loop extending over said sheaves and having its ends secured upon said beams, stops 20 provided on said chain before said sheaves, and means engaging with the end of the loop whereby the same is drawn out, substantially as and for the purpose specified.

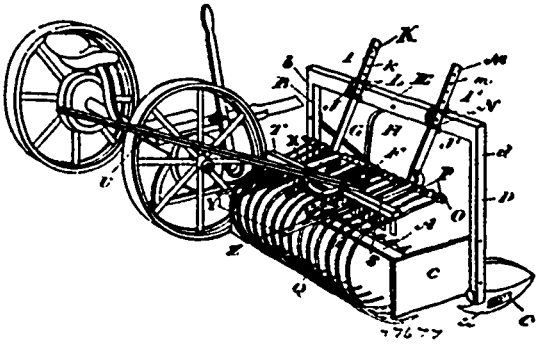
No. 47,676. Water-Wheel. (*Roue hydraulique.*)



Ovide Parent and Joseph Arthur Grenier, both of Montreal, Quebec, Canada, 12th December, 1894; 6 years.

Claim.—1st. In a water-wheel, the wheel having pallets F with convex surfaces on both sides and shrouding plates E, substantially as set forth, and for the purpose described. 2nd. In a water-wheel, the combination with the wheel, of the jet pipe G having an angular opening *o*, and a flange *i*, the detached flange *h* having recesses *k* and *k*¹, the handle R, the check pin *l*, the spring *n*, the lever P, and the set screw *r*, all substantially as and for the purpose set forth.

No. 47,677. Mowing Machine. (*Faucheuse.*)

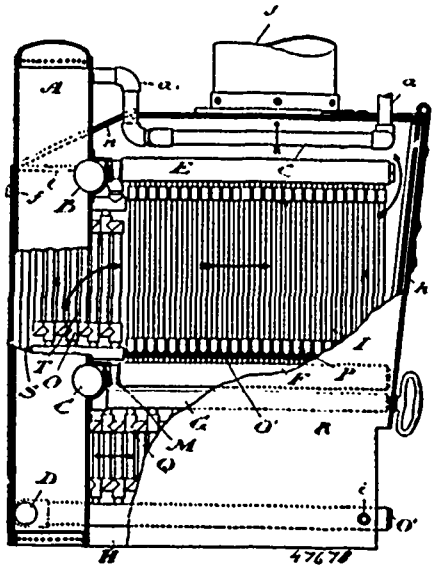


James Joseph Moran, Loretto, Ontario, Canada, 12th December, 1894, 6 years.

Claim. 1st. An attachment to a mowing machine consisting of a frame connected to the mowing machine, a series of rake teeth pivotally connected to the frame at the rear of the cutter bar, and means for raising and lowering the rake teeth, substantially as specified. 2nd. An attachment to a mowing machine consisting of a frame rigidly connected to the mowing machine, two arms adjustably connected to the frame, a shaft carried by the said arms, a series of rake teeth mounted on the shaft, and means for raising and lowering the rake teeth, substantially as specified. 3rd. An attachment to a mowing machine consisting of a frame rigidly connected to the mowing machine, two arms adjustably connected to the frame, a shaft carried by the said arms, a series of rake teeth mounted on the said shaft, a rake board, a lever connected to the rake board to raise and lower the rake teeth, substantially as specified. 4th. An attachment to a mowing machine consisting of a frame rigidly connected to the mowing machine, two arms adjustably connected to the frame, a shaft carried by the arms, a series of rake teeth mounted on the shaft, a rake board connected to the shaft, two strippers mounted on the shaft, one located at each end of the said shaft, a lever pivotally connected to the rake board, substantially as specified. 5th. An attachment to a mowing machine consisting of a frame rigidly connected to the mowing machine, two semi-circular brackets connected to the rear of the frame and located one at or near each end thereof, an arm adjustably connected to each of the brackets, a shaft carried by the arms, a series of rake teeth journalled on the shaft, two horizontal arms mounted on the shaft, a rake board carried by the horizontal arms, a lever pivotally connected to the top of the rake board, a plate secured to the rear of the rake board, a bolt passing through the lever and plate to alter the angle of the lever to the rake board to accommodate the lever to the position of the driver, two strippers mounted on the shaft and located one at or near each end thereof, substantially as specified. 6th. An attachment to a mowing machine consisting of a frame rigidly connected to the mowing machine, two

semi-circular brackets connected to the rear of the frame and located one at or near each end thereof, an arm adjustably connected to each of the brackets, a shaft carried by the arms, a series of rake teeth journalled on the shaft, two horizontal arms mounted on the shaft, a rake board carried by the horizontal arms, a lever pivotally connected to the top of the rake board, a bolt passing through the lever and plate to alter the angle of the lever to the rake board to accommodate the lever to the position of the driver, two strippers mounted on the shaft and located one at or near each end thereof, and the inside divider board connected to the frame, substantially as specified.

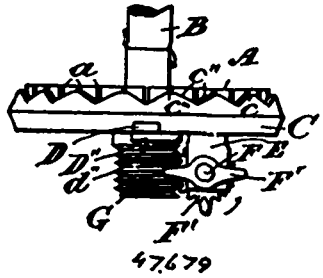
No. 47,678. Tube Boiler. (*Chaudière à tubes.*)



Charles David Jermyn, Hamilton, Ontario, Canada, 12th December, 1894; 6 years.

Claim.—1st. In a water tube boiler, a vertical drum connected to horizontal distributing pipes so that it serves both as a steam separator and as a down-comer for the water, substantially as and for the purpose specified. 2nd. In a water tube boiler, a heating surface composed of a series of tube sections formed of vertical tubes connecting two horizontal pipes, detachably connected to horizontal distributing pipes connected with a vertical drum or separator, substantially as and for the purpose specified. 3rd. In a water tube boiler, the vertical drum or separator A, having horizontal or distributing pipes B, and C connected thereto, in combination with a series of tube sections composed of the upper pipes E, lower pipes F, and vertical tubes connecting the same, between which tubes the heated gases from the furnace pass, substantially as and for the purpose specified. 4th. In a water tube boiler, a tube section composed of the upper pipe E, and the lower pipe F, detachably connected to the distributing pipes B and C, in combination with the vertical tube I, detachably connected to the pipe E, the vertical tube J, detachably connected to the pipe F, and the L-couplings K, connecting the tubes I and J, substantially as and for the purpose specified. 5th. In a water tube boiler, a tube section composed of the upper pipe E, and the lower pipe F, closed by plugs O^1, and detachably connected to the horizontal distributing pipes B and C, in combination with the vertical tube I, detachably connected to the pipe E, the vertical tube J, detachably connected to the pipe F, and the L-couplings K, connecting the tubes I and J, substantially as and for the purpose specified. 6th. In a water tube boiler, the vertical drum or separator A, the horizontal distributing pipes B, C and D, the tube sections P, comprising two series of pipes E and F, the pipes of each series touching one another and connected respectively to the distributing pipes B and C, and vertical tubes connecting the pipes E and F, in combination with the casing R, so shaped and connected that the heating gases from the combustion chamber T, are diverted to pass through the interstices between the vertical pipes of the tube sections P, and after emerging are turned back over the pipes E, to pass out of the smokestack *j*, substantially as and for the purpose specified. 7th. In a water tube boiler, the vertical drum or separator A, the horizontal distributing pipes B, C and D, the tube sections P, comprising two series of pipes E and F, the pipes of each series touching one another and connected respectively to the distributing pipes B and C, vertical tubes connecting the pipes E and F, and screw plugs O^1, closing all free pipe ends, in combination with the casing R, so shaped and connected that the heated gases from the combustion chamber T, are diverted to pass through the interstices between the vertical pipes of the tube sections P, and after emerging, are turned back over the pipes E, to pass out of the smokestack *j*, substantially as and for the purpose specified. 8th. In a water tube boiler, the vertical drum A, the horizontal distributing pipes B, C and D, the vertical tube sections P, connected to the pipes B and C, with their horizontal pipes E and F, touching those of the next section, fire-box lining tube sections Q, connected to the pipes C and D, in combination with the casing R, so shaped and connected that the heated gases from the combustion chamber T, are diverted through the interstices between the vertical pipes of the tube sections P, and after emerging, are turned back over the pipes E, to pass out of the smokestack *j*, substantially as and for the purpose specified. 9th. In a water tube boiler, the vertical drum A, the horizontal distributing pipes B, C and D, the vertical tube sections P, connected to the pipes B, and C, with their horizontal pipes E, and F, touching those of the next section, fire-box lining tube sections Q, connected to the pipes C and D, the combustion chamber lining tubes S, connecting the distributing pipes B and D, in combination with the casing R, so shaped and connected that the heated gases from the combustion chamber T, are diverted through the interstices between the vertical pipes of the tube sections P, and after emerging, are turned back over the pipes E, to pass out of the smokestack *j*, substantially as and for the purpose specified. 10th. In a water tube boiler, the vertical drum A, the horizontal distributing pipes B, C and D, the vertical tube sections P, connected to the pipes B and C, with their horizontal pipes E and F, touching those of the next section, fire-box lining tube sections Q, connected to the pipes C and D, combustion chamber lining tubes S, connecting the distributing pipes B and D, and lining tubes sections O, connecting the pipes B and C, in combination with the casing R, so shaped and connected that the heated gases from the combustion chamber T, are diverted through the vertical pipes of the tube sections P, and after emerging are turned back over the pipes E, to pass out of the smokestack *j*, substantially as and for the purpose specified. 11th. In a water tube boiler, the vertical drum A, the horizontal distributing pipes B and C, the vertical tube sections P, detachably connected to the pipes B and C, the horizontal pipe E and F, touching those of the next section superheating *c* and *d*, inserted in the steam pipe *a*, above the horizontal pipes E, in combination with the casing R, so shaped and connected that the heated gases from the combustion chamber T, are diverted to pass through the interstices between the vertical pipes of the tube sections P, and after emerging, are turned back over the pipes E, to pass out of the smokestack *j*, substantially as and for the purpose specified. 12th. In a water tube boiler, the vertical drum A, the horizontal distributing pipes B, C and D, the vertical tube sections P, connected to the pipes B and C, with their horizontal pipes E and F, touching those of the next section, and fire-box lining tube sections Q, connected to the pipes C and D, in combination with the casing R, so shaped and connected that the heated gases from the combustion chamber T, are diverted through the interstices between the vertical pipes of the tube sections P, and after emerging, are turned back over the pipes E, to pass out of the smokestack *j*, substantially as and for the purpose specified. 13th. In a water tube boiler, the vertical drum A, extending through the vertical drum A, extending through the combustion chamber T, the horizontal distributing pipes B, C and D, the vertical tube sections P, detachably connected to the pipes B and C, with their horizontal pipes E and F, touching those of the next section, fire-box lining tube sections Q, connected to the pipes C and D, combustion chamber lining tubes S, connecting the distributing pipes B and D, and lining tube sections O, connecting the pipes B and C, in combination with the casing R, and door *k*, so shaped and connected that the heated gases from the combustion chamber T, are diverted through the vertical pipes of the tube sections P, and after emerging, are turned back over the pipes E, to pass out of the smokestack *j*, substantially as and for the purpose specified.

No. 47,679. Self Tufting and Pattern Knitting Attachment for Knitting Machines. (*Appareil à moutonner pour machines à tricoter.*)



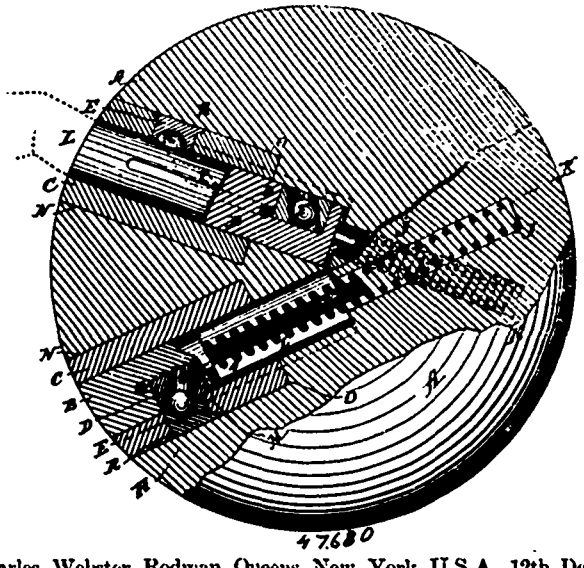
Thomas Alfred Code, Perth, Ontario, Canada, 12th December, 1894; 6 years.

Claim.—1st. In a knitting machine attachment, the combination, with the radially grooved dial and dial post, of a cam ring adapted to rotate upon the rim of the dial and having its upper edge formed into a series of cams by inclined planes forming shallow teeth corresponding to the grooves, a cross-bar journalled upon the hub of the dial post at the bottom of the dial and interlocking with the lower edge of the said cam ring, a finger on each side of the hub of

the cross bar, a stud secured to the underside of the dial adapted to have a cross-shaft journalled therein, a cross-shaft carrying a worm wheel and a double cam at each end adapted to bear on the fingers of the cross-bar and a worm secured upon the dial post and gearing into the worm-wheel on the cross-shaft, substantially as set forth. 2nd. In a knitting machine attachment, the combination of the radially grooved dial A, and the cam ring B adapted to rotate upon the rim of said dial and having its upper edge formed into a series of cams or teeth by inclined planes c^{11}, and flats or rests c^{111} corresponding to the pitch of the grooves, substantially as set forth. 3rd. In a knitting machine attachment, the combination of the grooved dial A, having a hub a^{11}, cam ring B adapted to rotate upon the rim of said dial and having its upper edge formed into teeth by inclined planes one for each groove, and a cross-bar D journalled upon the hub of the dial and engaging notches in the lower edge of the cam ring and interlocking therewith, substantially as set forth. 4th. In an attachment for knitting machines, the combination with a grooved dial A, and dial post B, of a bifurcated stud E projecting from the lower face of said dial, a cross-shaft F journalled in said stud, a worm-wheel F^1 secured upon the centre of said cross-shaft and two double cams F^{11} secured upon said shaft outside the bearing, and a worm G secured upon the dial post and gearing into said worm-wheel, substantially as set forth. 5th. In an attachment for knitting machines, the combination of a grooved dial A, a dial post B, a cam ring C journalled upon the rim of the dial, a cross-bar D journalled upon the hub of the dial and adapted to interlock with said ring, fingers upon said bar, a cross-shaft F journalled in a stud secured to the dial, double cam F^{11} upon said shaft adapted to engage said fingers, a worm-wheel F^1 upon said shaft, and a worm G secured to the dial post and adapted to gear into the worm-wheel F^1, substantially as set forth.

No. 47,680. Ten-pin Balls for Bowling Alleys.

(*Boule pour jeu de quilles.*)



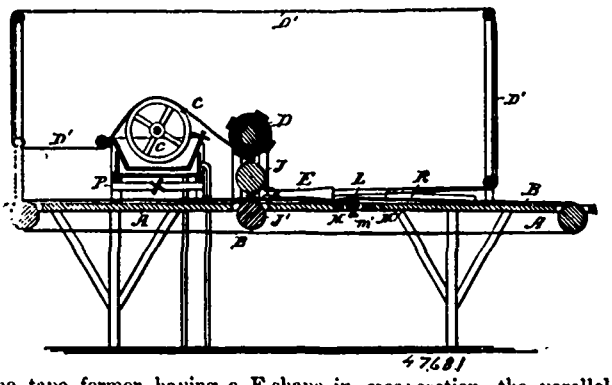
Charles Webster Rodman, Queens, New York, U.S.A., 12th December, 1894; 6 years.

Claim.—1st. In a ten-pin ball, provided with finger holes, the plugs B, arranged to slide in said holes, and means whereby said plugs are automatically locked and unlocked to and from the ball by change of position, all constructed and arranged to operate as and for the purposes specified. 2nd. The combination with a ten-pin ball, of finger holes, automatic closing plugs, closing springs, and means for locking and unlocking said plugs in their holes, all combined to operate, substantially as specified.

No. 47,681. Machine for Applying Backing Strips to Books, etc. (*Appareil pour appliquer des bandes sur le dos des livres, etc.*)

Abraham Lincoln Garver, Roaring Spring, Pennsylvania, U.S.A., 12th December, 1894; 6 years.

Claim.—1st. In a machine for the purpose herein described, the combination with an endless apron or carrier, and devices for carrying the tape or backing strip and for applying adhesive material thereto, of a tape forming device adjacent to said apron or carrier, said tape forming device being substantially E-shape in cross-section, and a guide for directing and forcing the edge of the article to be backed into said tape forming device, and into the tape-shaped thereby, substantially as specified. 2nd. In a machine for the purpose described, the combination with an endless apron or carrier, and devices for carrying and guiding the tape or backing strip, and for applying adhesive material thereto, of an elongated tape forming device of substantially E-shaped in cross-section, a guide parallel with said tape forming device, and a spring device carried by said guide, substantially as specified. 3rd. In a machine for the purpose described, the combination of the endless carrier, the tape guiding roll or pulley over the receiving end of said carrier,



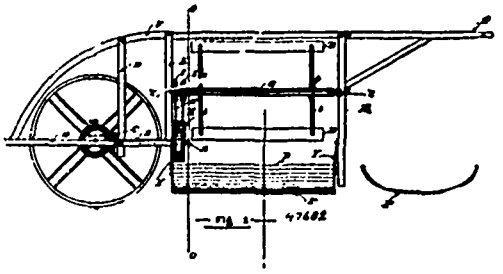
the tape former having a E-shape in cross-section, the parallel guide, its spring device, and a pair of transverse rolls between which the said carrier passes, said rolls being situated just beyond the discharge end of said tapeformer, substantially as specified. 4th. In a machine for the purpose described, a tapeforming device E-shaped in cross-section, and having a yielding and adjustable top portion, substantially as specified. 5th. In a machine for the purpose described, a tapeforming device, E-shaped in cross-section, and having a yielding and adjustable top portion, and oblique corrugations on the opposite faces of the top and bottom portions thereof, substantially as specified. 6th. In a machine for the purpose specified, a tapeforming device, comprising an elongated passage E-shaped in cross-section, a yielding and adjustable top portion for said passage, a vertical roller journalled in said passage near its discharge end, and horizontal rollers adjacent to said vertical roller, one above and one below, substantially as specified. 7th. In a machine for the purpose specified, a tapeforming device, comprising an elongated passage E-shaped in cross-section, and larger at one end portion than at the other, a yielding and adjustable top portion for said passage, oblique corrugations or ribs on the bottom and top portions of said passage, a vertical roller journalled therein near its discharge end, and oblique horizontal rollers adjacent to said vertical roller, one at the top and one at the bottom. 8th. In a machine for the purpose described, the combination of the endless carrier, the tape-roll *a*, the tape-former E-shaped in cross-section, the elevating roll L, forward of said tape-former, the guide K, parallel with the former, and the rolls J, J^1, back of said tape-former, substantially as specified. 9th. In a machine for the purpose described, the combination of the frame or table, a series of tape-carrying rolls supported over said table, and endless apron or carrier, working around said table, a tape forming device into which the tape passes from its carrying rolls, an elevating roll underneath the apron forward of said tape forming device, the rolls J, J^1 back of said device, and a glue-pot supported over the delivery part of the said carrier, whereby its heat is utilized to dry the work, substantially as specified. 10th. A machine for applying backing strips to tablets, &c., comprising a frame or table, an endless apron or carrier, a tape-former E-shaped in cross-section and into which the tape is guided from its carrying and glueing devices, the elevating roll L, the guide K, and spring K^1, and the rolls J, J^1, substantially as specified. 11th. In a machine for the purpose herein described, the combination of the tape-carrying reel, the glue-pot, the tape-guiding and forming devices, the endless apron for feeding the work, and the finishing rolls between which the work passes after the tape has been applied, substantially as specified.

No. 47,682. Potato Bug Picker. (*Arrache-patates.*)

Allan Hunter, Dundas, Prince Edward Island, Canada, 12th December, 1894; 6 years.

Claim.—1st. In a machine of the character described, the combination of the following instrumentalities, to wit, an axle, a driving wheel firmly attached to said axle, a frame mounted on said axle, a pair of handles attached to said frame, a pan suspended from the posts of said frame by leathern straps, two beams attached respectively to the rear and front posts of said frame, a pair of spindles with beaters attached supported by and turning in adjustable bearings in slots at the ends of said beams, a single-grooved pulley attached to the forward end of each spindle, a double-grooved pulley connected by a band with each pulley above mentioned, a shaft to which said double-grooved pulley is attached at the rear end and having a pinion at the front end which gears with the driving with the driving wheel first mentioned above, all substantially and for the purpose hereinbefore set forth. 2nd. The machine herein described the same consisting essentially of the driving wheel W firmly attached to its axle V, the frame made up of the curved beam

F, the posts E, E, E, E, the parts A, A, the cross-piece R, the post D, and the handles H, H, the pan P suspended from the posts E, E, E, E, by the leathern straps Y, Y, Y, Y, the cross-beams M M attached to the posts E E by the thumbscrews N N and having at



their ends the adjustable bearings x x, the spindles G G, with the beaters B B, attached by their arms b b, turning in said bearings x x and having firmly fastened at their forward ends the pulleys I I, the bands T T connecting said pulleys I I with the double pulley K, the shaft S connecting the double pulley K with the pinion C and resting upon the cross-piece R and in the post D, the pinion C gearing with the driving wheel W by its part w, all being constructed, combined and arranged to operate, substantially as described.

No. 47,683. Liquid Filter. (*Filtre.*)

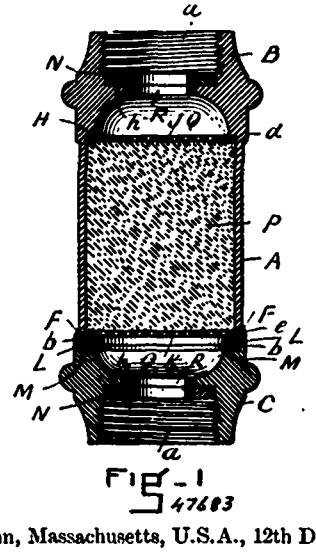


FIG. 1
47683

John Ellis, Lynn, Massachusetts, U.S.A., 12th December, 1894; 6 years.

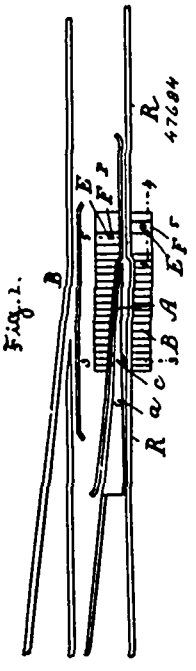
Claim.—In a reversible liquid filter, the combination with the body portion A, containing filtering material P, of the ends B, C, one of which is formed integral with, and the other, detachably connected to the body portion, an internal shoulder in each of said ends, a perforated plate J, resting upon one, a washer M, resting upon the other of said shoulders, a shoulder c formed on the inner surface of the body A, and adapted to support a second perforated plate as K, and a spring ring b, placed between the plate and washer, whereby said plate is retained in position, substantially as described.

No. 47,684. Device for Operating Switches.

(*Appareil pour actionner les aiguilles.*)

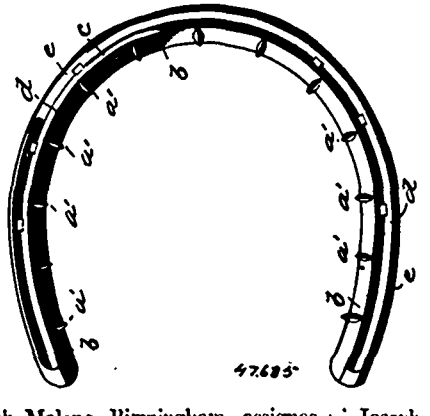
Oscar Beaudry and Charles Leblanc, both of Ottawa, Ontario, Canada, 13th December, 1894; 6 years.

Claim.—1st. A device for automatically opening switches consisting of a T-shaped lever pivoted under the switch rail, a pin in the single arm of the said lever projecting through a slot in the channel between the rail and the guard, into the pivoted tongue of the switch, pitman rods connecting the two arms of the said T-shaped lever with two vertical levers *pivoted one on either side of the rail*, and projecting through slots in plates at the side of the rails, the upper portions of the said levers being above the level of the rails, vertically sliding bars carried on the truck of the car operating the switch, the said bars being vertically over the said vertical levers, the said vertical bars being adapted to be raised or depressed by the driver or motorman of the car, substantially as described. 2nd. *In a switch adapted to be operated by mechanism carried by a car* passing over it, the combination with the pivoted tongue of the switch of the T-shaped lever C pivoted under the rail, a pin c passing through a slot into the said pivoted tongue, pitman rods D connecting the said T-shaped lever C to the lower ends of levers E, the levers E pivoted one on either side of the rail, the tops of the said levers E being above the level of the rails, substantially as set forth. 3rd. In a switch adapted to be operated by mechanism carried by a car passing over it, the combination with the levers E passing through slots corrugated plates B, the corrugated plates B



having slots for the passage of the said levers E, of the sliding plates F, and the tongues f holding the said plates in position, substantially as set forth. 4th. In a device for operating a switch automatically from the car passing over it, the combination with the vertically sliding bars I carried on the frame of the truck of the car, pivoted to the cross-head J, the cross-head J, shaft K journalled on the said frame and carrying at one end the said cross-head, a crank-arm L secured to the said shaft K, the pitman M connecting the said crank L to a bell crank lever N, the bell crank lever N connected by a pitman rod O to a lever P, the said lever P adapted to be operated by the driver or motorman, substantially as set forth.

No. 47,685. Horse-Shoe. (*Fer à cheval.*)



John Joseph Malone, Birmingham, assignee of Joseph Benfield, Walsall, Stafford, both in England, 13th December, 1894; 6 years.

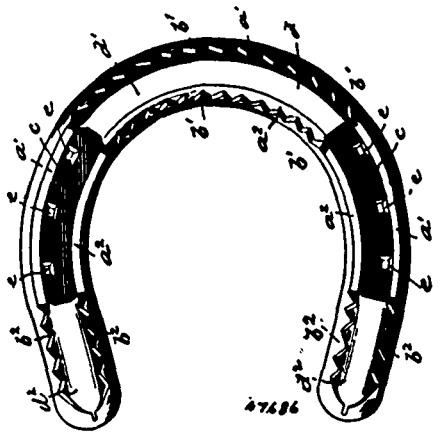
Claim.—1st. The improved shoe for horses or other draft animals made with small spikes or teeth such as a^1 projecting at intervals from the inner concave or bevelled surface b of the shoe for the prevention of slipping, substantially as hereinbefore set forth. 2nd. For making the improved shoes for horses or other draft animals of the kind denoted under claim 1, the improved rolled metal horse-shoe bars made with nail crease c and with the bevelled side b having short spikes or teeth a^1 rolled upon it, substantially as and for the purpose set forth.

No. 47,686. Horse-Shoe. (*Fer à cheval.*)

John Joseph Malone, Birmingham, assignee of Joseph Benfield, Walsall, Stafford, both in England, 13th December, 1894; 6 years.

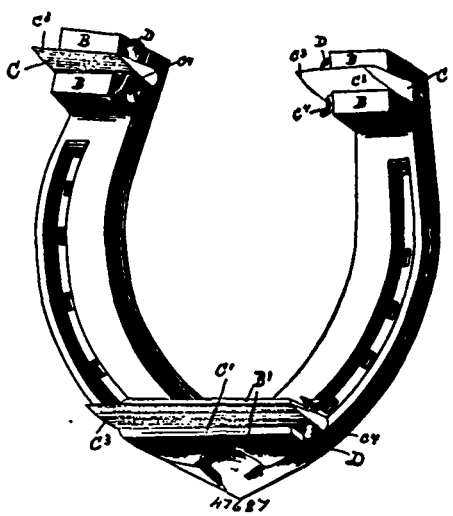
Claim.—1st. The herein described improvement in channel sec-

tion shoes for horses and other draft animals to prevent slipping consisting in making the edges of the tread serrated or partly serrated and partly plain either with or without India-rubber blocks in



the channel to improve the foothold and lessen the shock to the horse's hoofs as hereinbefore set forth. 2nd. In channel section horse-shoes and other like shoes made with serrated edges as denoted under claim 1, making the shoe with an India-rubber block d^1, at the front and two other India-rubber blocks d^2, at the back parts of the shoe and nail holes e, in the channel part between the terminations of the India-rubber blocks as hereinbefore described.

No. 47,687. Horse-Shoe. (*Fer à cheval.*)



John Joseph Malone, Birmingham, assignee of Joseph Benfield, Walsall, Stafford, all in England, 13th December, 1896; 6 years.

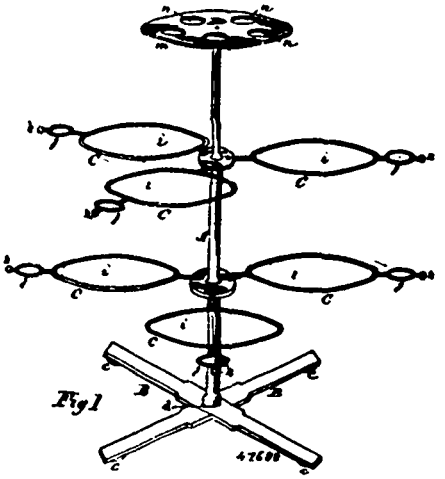
Claim.—The herein described improvement in shoes for horses and other draft animals, and in roughing cogs for the said shoes consisting in making the said shoes with taper dove-tailed cross-slots in their calks, and with dove-tailed heels cogs and toe cogs driven endwise in said taper dove-tailed cross-slots, and there secured by the peculiar taper dove-tailed formation of the slots and cogs, and by a cross-peg pin or the like passing through the cog to prevent the cog moving endwise out of the cross-slot, substantially as hereinbefore described.

No. 47,688. Self-Waiter for Dining Tables.

(*Appareil à servir pour table à manger.*)

William Henry Thompson, and George Morris, both of Hamilton, Ontario, Canada, 13th December, 1894; 6 years.

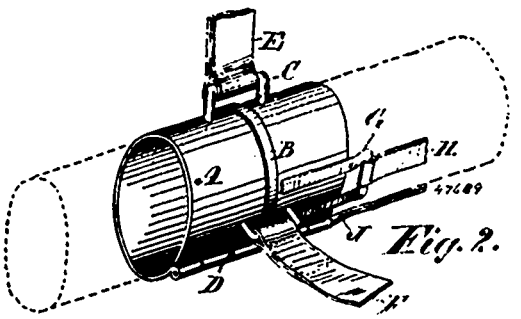
Claim.—1st. A self-adjusting waiter for dining tables, consisting of an upright metal standard set in a base frame, and frames containing circular rings to receive vegetable dishes and cruet bottles made to revolve on said standard at intervals apart, the standard terminating at the top with a circular plate attached, having opening for cruet bottles, all constructed substantially as and for the purpose specified. 2nd. In a self-waiter for dining tables, the combination of the standard A, the cross-bar B, frames C, having large rings i for vegetable dishes, and smaller rings j on the outer side for cruet bottles, the whole constructed and arranged substantially as and for the purpose specified. 3rd. The standard A, constructed with the pin p, the projections a, c, f, l, y, in combination with the revolv-



ing frames C, and plate m, and the base plates B, having projections c on their under side, substantially as specified.

No. 47,689. Harness Attachment for Shafts.

(*Bracelet de harnais.*)

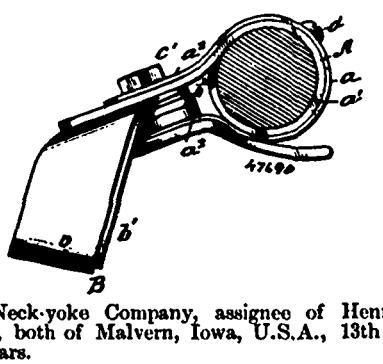


Philemon C. Heath, Talcville, New York, U.S.A., and John Robinson, Prescott, Ontario, Canada, 13th December, 1894; 6 years.

Claim.—1st. A fastening for attaching the breeching, saddle straps and girths to shafts of vehicles, comprising a tubular body or ferrule A, in two longitudinal parts hinged together and provided with a spring catch B, said body or tube having loops C, D and G, for attachment of the harness, as set forth. 2nd. The combination with the shafts provided with lugs J, of the ferrule or tubular body A, one on each shaft and sliding thereon, and having loops C, D and G, and the saddle straps E, girth F, and breeching H, attached to said loops, as set forth.

No. 47,690. Neck-yoke Centre.

(*Centre de volée de bout de timon.*)



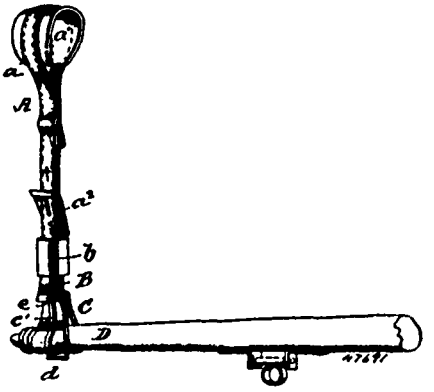
The Safety Neck-yoke Company, assignee of Henry Thomas Richmond, both of Malvern, Iowa, U.S.A., 13th December, 1894; 6 years.

Claim.—1st. The combination of the loop A, consisting of a sheet metal band a, and a leather strap a^1 lining the inner surface of the band a, the loop B, consisting of a sheet metal strap b, and a leather strap b^1 lining the inner surface of said strap b, the terminal metal portions of the loops being arranged to alternate with the leather portions thereof, a bolt c, passing through the loops and swivelling

the same together, and a nut c^1 carried by said bolt, as and for the purpose specified. 2nd. The combination of the loop A consisting of a sheet metal band *a*, and a leather strap a^1 lining the inner surface of the band *a*, the loop B consisting of a sheet metal strap *b*, and a leather strap b^1 lining said strap *b* on its inner surface, the terminal metal portions of the loops being arranged to alternate with the leather portions thereof, a bolt *c* passing through the loops and swivelling the same together, a nut c^1 carried by said bolt, the neck-yoke and set screw carried thereby, said loop A having a slot *d* receiving said set screw, all as and for the purpose specified.

No. 47,691. Neck-yoke Attachment.

(*Attache de volée de bout de timon.*)

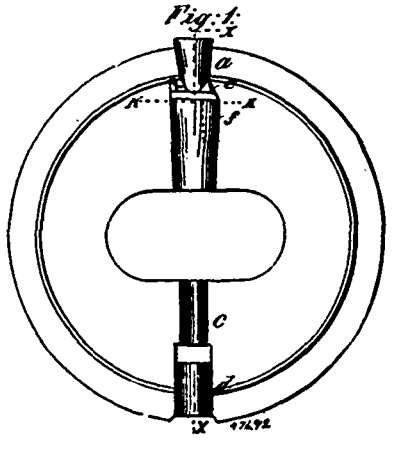


The Safety Neck Yoke Company, assignee of Henry Thomas Richmond, both of Malvern, Iowa, U.S.A., 13th December, 1894; 6 years.

Claim.—1st. The combination of a breast strap having a loop *a*, at its upper end, a bearing loop or surface a^1 of leather upon the inner side of the loop *a*, and having greater width than the latter, an end-piece B carried by said breast strap and carrying a loop *b*, which receives the free end of the breast strap, a metal strap b^1 encompassing the loop *b*, and a neck-yoke carrier C swivelled to the end piece B and having its bottom portion slotted as at *c*, the neck-yoke provided with a staple projecting through the slot *c*, and a metal strap c^1 encompassing the carrier C and passing through the staple, as and for the purpose specified. 2nd. The combination with the neck-yoke carrier C of a metal strap of less width than the carrier and encompassing the same, said carrier being provided at its bottom portion with a slot *c*, a neck-yoke provided with a staple passing through said slot, said strap passing through said staple and a connecting piece swivelled to the upper portion of the carrier adapted to be connected with a breast piece, as and for the purpose specified.

No. 47,692. Stovepipe Damper.

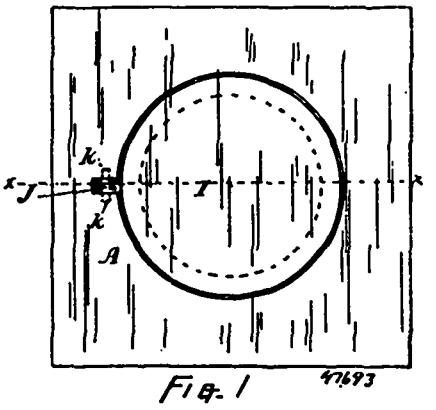
(*Registre pour tuyaux de poêles.*)



Fay O. Farwell, and The Adams Company, Dubuque, Iowa, assignees of Emil A. Hoefer, Freeport, Illinois, all in the U.S.A., 13th December, 1894; 6 years.

Claim.—1st. In a stovepipe damper, the combination of a stem B, groove *i*, ring I, and handle D, as and for the purposes shown. 2nd. In a stovepipe damper, a stem, provided with a saddle or stop E, extension *d*, with groove *i*, ring I, handle D, as and for the purposes shown. 3rd. In a stovepipe damper, a stem provided with a groove *i*, having its outside face an abrupt incline, a ring I, capable of being compressed within said groove *i*, and a handle D, as and for the purposes shown. 4th. In a stovepipe damper, a stem having a bent portion G, with incline *g*, and flat portion *l*, in combination with a blade having loops *a* and *b*, the loop *a*, having the incline *c*, and the loop *b*, having the open portion *f*, as and for the purposes shown. 5th. In a stovepipe damper, a stem B, having a bent portion G, with incline *g*, in combination with a blade having loops *a*, *b*, *c*, *d*, one of which loops has an incline *c*, corresponding with the incline *g*, whereby the irregularities of the castings are compensated for, and the blade is firmly secured to the stem, substantially as described and shown. 6th. In a stovepipe damper, a stem with bent portion G, and incline *g*, a blade having loops one of which has an incline *c*, in combination with a spring H, as and for the purposes shown. 7th. In a stovepipe damper, the combination of the handle D, secured to the stem by the ring I, and saddle or stop E, a stem with bent portion G, and incline *g*, a blade having loops, one of which has an incline, and a spring H, interposed between the saddle E, and blade, as and for the purposes shown.

No. 47,693. Pipe Sleeve. (*Manche de tuyau.*)

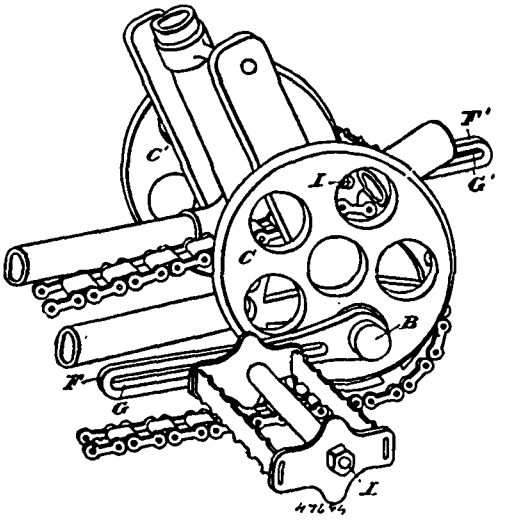


Ferdina Dubé, Mathais Valiquette, Elie Claude, and John Victor Valiquette, all of Ottawa, Ontario, Canada, 13th December, 1894; 6 years.

Claim.—1st. A pipe sleeve having two concentric walls with air and space between, the outer wall fitting closely upon an annular shoulder formed on a top plate, and the inner wall projecting through a pipe hole in said plate, and having its edge turned over, and down into a groove formed in the plate around the pipe hole. 2nd. A pipe sleeve having the top plate A, with a central opening for the passage of a pipe through it, a marginal groove F, around said opening, an annular shoulder C, two concentric walls B and D, the former being fitted on the shoulder C, and the latter having its edge turned over into the groove F, and their bottom edges connected by the perforated plate H. 3rd. A pipe sleeve having the two concentric walls B and D, the top plate A, and the hinged removable pipe hole cover I, substantially as herein shown and described, and for the purposes set forth.

No. 47,694. Driving Gear for Bicycles.

(*Engrenage de bicycles.*)



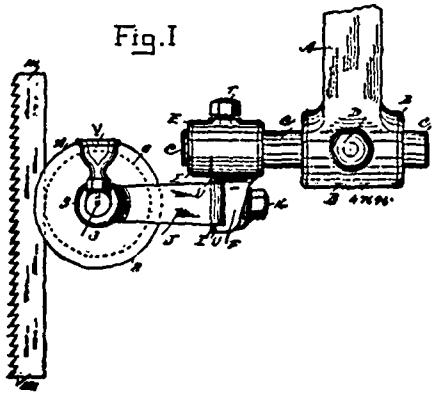
A. D. Lafontaine, Smithville, Ontario, Canada, 13th December, 1894; 6 years.

Claim.—1st. A driving gear for bicycles consisting of a crank

axle, a mechanism eccentric to the crank axle for imparting to the crank axle a rotary motion, substantially as specified. 2nd. A driving gear for bicycles consisting of a crank axle, a crank connected to each end of the crank axle and mechanism eccentric to the crank axle for imparting to the cranks and crank axle, a rotary motion, substantially as specified. 3rd. A driving gear for bicycles consisting of a crank axle, a slotted crank connected to each end of the crank axle, mechanism eccentric to the crank axle, pedal pins connected to the mechanism projecting through the slots in the cranks whereby motion is transmitted to the cranks, substantially as specified. 4th. A driving gear for bicycles consisting of a crank axle, a crank connected to each end of the crank axle, mechanism eccentric to the crank axle from which power is transmitted to the cranks on their downward stroke and which acts independent of the crank on the upward movement of the same, substantially as specified. 5th. A driving gear for bicycles consisting of a crank axle, a crank connected to the end of the crank axle, a disc eccentric to the crank axle, an eccentric strap encircling the disc, a pedal pin connected to the eccentric strap and to the crank, whereby the crank is operated on its downward movement, and which is arranged to return to the top of the disc independent of the crank, substantially as specified. 6th. A driving gear for bicycles consisting of a crank axle, a slotted crank connected to the end of the crank axle, a disc eccentric to the crank axle, an eccentric strap working on the disc, a pedal pin connected to the eccentric strap and projecting through the slot in the crank, substantially as specified. 7th. A driving gear for bicycles consisting of a crank axle, a slotted crank connected to the end of the crank axle, a disc eccentric to the crank axle, a pedal pin connected to the eccentric disc and carried eccentrically about the crank axle to operate the crank, substantially as specified. 8th. A driving gear for bicycles consisting of a crank axle, a slotted crank connected to the crank axle, an eccentric working about the crank axle, a pedal pin carried by the eccentric and projecting through the slot in the crank, substantially as specified. 9th. A driving gear for bicycles consisting of a crank axle, a slotted crank connected to the end of the crank axle, a disc eccentric to the crank axle, a strap working on the disc, ball bearings for the strap, a pivotal pin carried by the strap projecting through the slot in the crank, substantially as specified.

No. 47,695. Band-Saw Guide. (*Garde pour scie à ruban.*)

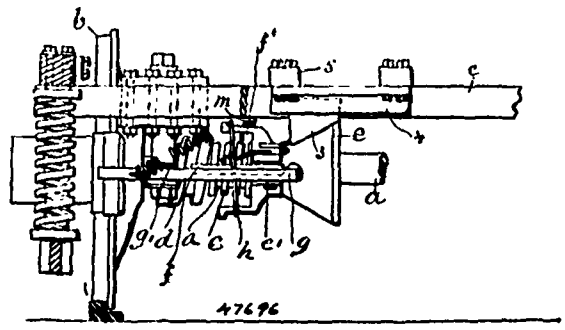
Fig. I



William Allen Howell, M.D., assignee of Stephen Lounsberry, both of Jarvis, Ontario, Canada, 13th December, 1894; 6 years.

Claim.—1st. In an adjustable anti-friction band-saw guide, the combination of the anti-friction band-saw guide wheel, having annular groove to admit the back, and part of sides, of a band-saw, and provided with extended journals P, having conical ends 2, adapted to revolve in bearings R, which pass through bosses S, of arms J, and capable of adjustment, said bearings to conform to said conical ends, and the oil channels, provided with oil cups, substantially as described and set forth. 2nd. The guide wheel having annular groove, for band-saw, and provided with extended journals P, having conical ends, adapted to revolve in bearings conforming with said ends, the bearings being capable of horizontal adjustment through the bosses S, of arms J, and held in position by set screws L, in combination with the oil cups in position immediately over the outer ends of oil channels 3, convex end of said arms J, fitting into concave of shank F, having guide flanges and slot and held in adjusted position by means of bolt K, substantially as described and set forth. 3rd. The combination in an adjustable anti-friction band-saw guide of the guide wheel having annular groove to conform to thickness of band-saw, and provided with extended journals having conical point ends, adapted to revolve in adjustable horizontal bearings which conform to said ends, said bearings passing through and supported by the bosses S, and held in adjustable position by set screws L, the extended arms J, of said bosses, their convex end fitting into the concave of shank F, having slot H, flanges I, bolt K, and adjusting hub E, provided with set screw T, and capable of forward and rearward adjustment on the horizontal bar C, which is capable of adjustment in rear vertical bar A, by means of set screw D, substantially as described and set forth.

No. 47,696. Car Brake. (*Frein de chars.*)

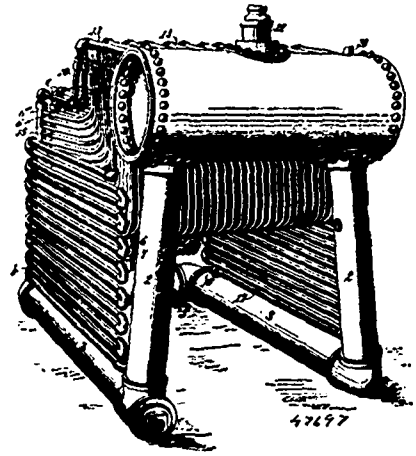


James Philip Martin, Enoch James and Frank Gormley, all of Montreal, Quebec, Canada, 13th December, 1894; 6 years.

Claim.—1st. In a car brake, the combination of one or more levers fulcrumed adjacent to the car wheel and having ends adapted to be pressed upon the tread thereof, a movable wedge block mounted on the axle, and adapted to operate such lever or levers, and the axle carrying worm, with means for effecting an engagement of the wedge block with the worm and for returning the block to its normal position, for the purpose set forth. 2nd. In a car brake, the combination of one or more levers fulcrumed adjacent to the car wheel and having outer ends adapted to be pressed upon the tread thereof, a wedge block mounted on the axle and adapted to operate such lever or levers by bearing upon the inner end or ends thereof, a worm rigidly carried by said axle, an engaging device carried by the wedge block for effecting an engagement between the block and the worm, means for returning the block to its normal position and a suitable connection under control of the motorman for moving such engaging device into mesh with the worm, for the purpose set forth. 3rd. In a car brake, the combination of one or more levers fulcrumed adjacent to the car wheel and having outer ends to be pressed upon the tread thereof, a movable wedge block in the form of a truncated cone mounted to slide on the axle and adapted to operate such lever or levers by bearing upon the inner end or ends thereof, means for preventing the rotation of the block with the axle, a worm rigidly carried by said axle, an engaging device in the form of a pivoted finger with spring for keeping it normally in disengaged position, carried by the wedge block for effecting an engagement between the block and the worm, means for returning the block to its normal position, and a suitable flexible connection, under control of the motorman, for bearing upon and moving such engaging device into mesh with the worm, for the purpose set forth.

No. 47,697. Pipe Boiler. (*Chaudière à tubes.*)

Fig 1



James Kaine, Charles Howard Boyer, and Frank Woodruff Boyer, all of Brooklyn, New York, U.S.A., 13th December, 1894, 6 years.

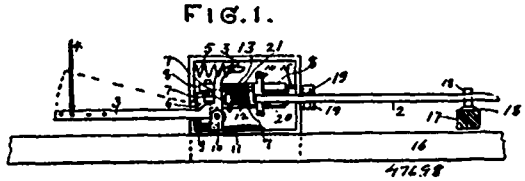
Claim. 1st. A water-tube steam-boiler comprising a steam drum and water columns, all upon the exterior of the boiler casing, water-legs arranged at or near the sides of, and within the boiler casing, but beneath the grate, their ends projecting outside and communicating with the lower ends of the water columns, a transverse water-leg at the rear forming a continuation of the legs at the side, a series of side pipes above and communicating with each side-leg, two parallel, but alternating series of pipes entering the transverse leg, two alternating series of manifolds connected at their rear ends to the alternating series of pipes, their front ends entering the steam drum, and groups of pipes of reduced diameter, lying in

vertical planes, their forward ends entering the lower sides of the manifolds and their other ends entering the two alternating series of pipes, substantially as described. 2nd. A water-tube steam-boiler, comprising a steam drum and communicating water columns all exterior to the combustion chamber, two longitudinal water-legs lying beneath the grate at the sides and having their ends projecting from said chamber to communicate with the water columns, a transverse water-leg forming a continuous passage with the other ends of the longitudinal legs, two alternating series of pipes rising from the the transverse leg, two alternating series of manifolds entering the steam drum at their forward ends, their rear ends connected by pipes to the tops of the two alternating series of pipes, and groups of pipes of relatively small diameter, arranged in vertical planes, their forward ends entering the manifolds and their other ends entering the two alternating series of pipes, substantially as described. 3rd. In a water-tube steam-boiler, the combination with a steam drum arranged at the top and front of the combustion chamber, but exterior thereto, of water columns entering said drum at or near its ends, water-legs arranged at or near the sides of the combustion chamber, but wholly below the grate, a transverse water-leg connecting the rear ends of said water-legs, two series of manifolds entering the steam drum at their forward ends, one series at or near the top of the combustion chamber and the other series below and alternating with the first, vertical and horizontal series of pipes connecting the rear ends of the manifolds with the transverse water-leg, and groups of pipes of relatively small diameter entering the manifolds from beneath the latter, and entering the vertical series of pipes at their rear sides, each group being in a vertical plane, substantially as described. 4th. In a water-tube steam-boiler, the combination with a steam drum and with water-columns entering the lower side of the same at or near its ends, said parts being exterior to the combustion chamber and boiler casing, of parallel water-legs at or near the sides of said chamber and wholly beneath the grate, their forward ends projecting and connected to the lower ends of the water columns, a transverse water-leg at the rear connecting the ends of the parallel water-legs, two alternating series of closely arranged pipes rising from the transverse leg, two alternating series of manifolds entering the steam drum at their forward ends, and groups of pipes of relatively small diameter entering the vertical pipes and extending forward in vertical planes, their forward portions being successively curved upward to enter the manifolds, substantially as described. 5th. In a water-tube steam-boiler, the combination, with a horizontal steam drum arranged outside the combustion chamber and boiler casing, of two horizontal legs connected to said drums, a rearward transverse leg connecting the ends of the horizontal legs, said legs arranged beneath the plane of the grate, a series of side pipes bent alternately in opposite directions over the horizontal legs and communicating with the latter and with the steam drum, two alternating series of pipes rising from the transverse water-leg, two series of manifolds, connected at their rear ends to the said vertical pipes and at their other ends to the steam-drum and groups of smaller pipes lying in vertical planes entering the vertical pipes at short intervals from their upper ends downward and extending forward, their ends entering the manifolds on the lower sides of the latter, substantially as described. 6th. In a water-tube steam-boiler, the combination, with a steam drum exterior to the boiler casing, of water-legs lying beneath the grate and connected to said drum, and a series of groups of pipes of small diameter connected to rearward pipes communicating with the water-legs and running in vertical planes through the combustion chamber, their forward end communicating with the steam drum through manifolds, substantially as described.

No. 47,698. Windmill Governor.

(*Gouverneur de moulin à vent.*)

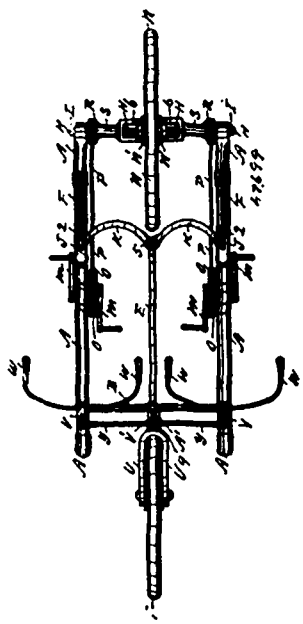
FIG. 1.



Eugene V. Farley, Waterman, Illinois, and Royal E. Farley, Craig, Nebraska, assignees of Ozias A. Farley, of Craig, aforesaid, all in the U.S.A., 13th December, 1894; 6 years.

Claim.—1st. In a windmill governor the combination of a rock-lever one end falling normally on a bracket on the pump rod, the opposite end provided with a spring-actuated pawl, set to engage a ratchet bar attached to the windmill gear a spring-actuated detent set to engage the ratchet bar, a fender and a brake set to engage the pawl, and means connecting the fender and brake, and the detent with a float in the water tank whereby the falling of the float actuates the fender and brake against the pawl, and the detent away from the ratchet bar, substantially as described. 2nd. In a windmill governor the combination of a rock lever connected with the pump rod one end provided with a pawl set to engage a ratchet bar connected with the windmill gear, a detent set to engage the ratchet bar and a fender adapted to hold the pawl away from the ratchet bar, a bell-crank lever one arm connected with a float, the opposite arm set to engage the detent, as the float falls, and force it away from the ratchet bar and actuate the fender against the pawl, a locking bolt arranged to lock the detent and fender, a spring actuating the bell-crank lever against the weight of the float, to draw the bolt and release the detent and fender as the float rises, substantially as described. 3rd. In a windmill governor the combination of a rock lever one end normally falling on a bracket on the pump rod, the opposite end having a spring-actuated sliding pawl set to engage a ratchet bar connected with the windmill gear, a spring actuated sliding detent to engage the ratchet bar, a fender and brake to bear against the point of the pawl, a bell-crank lever one arm connected with a float and actuated against the weight of the float by a spring, the other arm set to actuate the detent away from the ratchet bar and the fender and brake toward the pawl, a bolt to lock the detent and the fender and brake, the bell-crank lever set to engage and withdraw the bolt as the float rises and simultaneously release the detent and the brake and fender, substantially as described. 4th. In a windmill governor the combination of a rock lever one end normally falling on a bracket on the pump rod, the opposite end having a spring-actuated pawl to engage a ratchet bar connected with the windmill gear, a spring-actuated detent set to engage the ratchet bar a fender and brake to bear against the point of the pawl, a bell-crank lever, one arm connected with a float, the other arm set to move the detent away from the ratchet bar and the fender and brake against the pawl when the float falls, substantially as described.

No. 47,699. Bicycle. (*Bicycle.*)



Albert S. Weaver, Hamilton, Ontario, Canada, 13th December, 1894; 6 years.

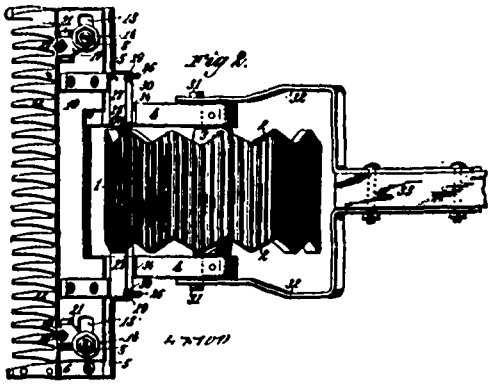
Claim.—1st. In an adjustable two-side seated bicycle, the combination of a two sided frame having a tubular standard on each side capable of supporting and allowing to be adjusted vertically and horizontally, the seat supports J, having slotted holes 2, and shanks J^1, and pedals opposite each seat support to drive the machine, substantially as described and set forth. 2nd. In an adjustable one, two or three seated bicycle, the two sided frame, having a tubular standard on each side to receive the shanks of the seat supports J, said supports being capable of vertical and horizontal adjustment, the curved cross-brace K, having a centrally located hub adapted to receive the shank J^1, of the seat support J, to adjust the same, in combination with the pedals in line with the centre of the said side seat supports to drive the machine, substantially as described and set forth. 3rd. The combination of the two-sided frame, with thronged rigid axle, provided with wheel N, having central hub, and extension hubs S, with openings 6, the belt wheels R, forming a part of said hubs S, the said extension hubs capable of engaging the driving-wheel N, by means of two or more pins 8, which fit into the engaging ends of said hubs, substantially as described and set forth. 4th. The combination of the two-sided frame A, provided with front tubular part A, secured by cross-braces A and C, the two pairs of handles W, having shanks W^1, adapted to work in the upper front tubular part of said frame, the levers V, and V^1, secured to said shanks W^1, and to the cross-rod Y, for guiding front ground-wheel T, and the adjustable brace E, substantially as described and set forth.

No. 47,700. Lawn Mower. (*Tondeuse pour pelouses.*)

Florence Hermanzohe, Scranton, Pennsylvania, U.S.A., 13th December, 1894; 6 years.

Claim.—1st. A mowing machine, comprising in its structure a

drive wheel having upon its opposite sides an annular series of cam projections, a reciprocating cutter-bar, hinged arms carried by said cutter-bar and bearing by gravity against said cam projections, and means for preventing said arms from moving downwards past a horizontal line, the arrangement of the parts being such that the rotation of said drive wheel in one direction operates to reciprocate



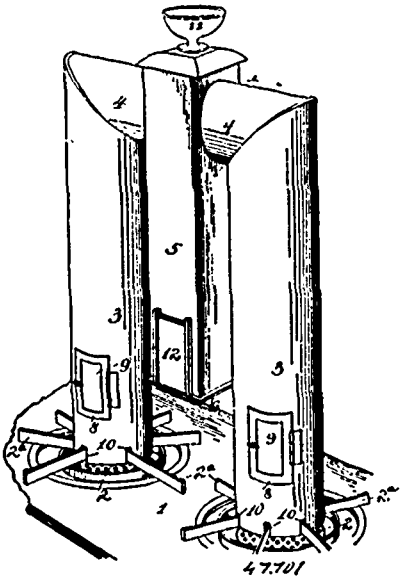
said dogs simultaneously to actuate the cutter-bar and upon a reverse movement permits said dogs to ride idly over said cam projections without operating the cutter-bar, substantially as described. 2nd. In a lawn-mower, the combination, with the drive-wheel provided upon its opposite sides with an annular series of cam projections, and the frame and finger-bar carried thereby, of the reciprocating cutter-bar supported upon said finger-bar, two rearwardly projecting pintles carried by said cutter-bar, dogs journalled upon the rear ends of said pintles and provided at their free ends with friction rolls engaging said cam projections, the relative arrangement of said dogs and the frame being such that when the machine is propelled in a forward direction the dogs rest upon the upper side of the frame and are prevented from moving downward past the horizontal, substantially as described. 3rd. In a lawn-mower, the combination, with the drive-wheel provided upon its opposite sides with an annular series of cam projections and the frame and finger-bar carried thereby, of the reciprocating cutter-bar supported on said finger-bar, two rearwardly projecting pintles carried by said cutter-bar, dogs journalled upon the rear ends of said pintles and provided at their free ends with friction rolls engaging said cam projections, and shoulders formed upon said pintles and adapted to abut against said dogs to limit the upward movement of the latter, the relative arrangement of said dogs and frame being such that when the machine is propelled in a forward direction the dogs rest upon the upper side of the frame and are prevented from moving past the horizontal, substantially as described. 4th. In a lawn-mower, the combination, with the drive-wheel and the frame and finger-bar carried thereby, of the slotted cutter-bar supported upon said finger-bar, adjusting screws freely passing through said cutter-bar and through screw threaded perforations in said finger-bar, bearings *swivelled upon the lower ends of said adjusting* screws, a roller journalled in said bearings, and nuts tapped over the upper ends of said adjusting screws, substantially as and for the purpose specified. 5th. In a lawn-mower, the combination, with the drive-wheel, the frame and finger-bar carried thereby, of the slotted cutter-bar supported upon said finger-bar, adjusting screws engaging threaded perforations in the finger-bar and loosely passing through the slotted portions of the cutter-bar, boxes arranged upon said adjusting screws above the the cutter-bar and provided with shoulders projecting through said slotted portions of the cutting-bar and bearing against the upper side of the finger-bar, and nuts tapped over the upper ends of said adjusting screws, substantially as described. 6th. In a lawn-mower, the combination with the drive-wheel, the frame and finger-bar carried thereby, of the slotted cutter-bar supported upon said finger-bar, adjusting screws engaging threaded perforations in the finger-bar, and loosely passing through the slotted portions of the cutter-bar, boxes arranged upon said adjusting screws above the cutter-bar and provided with shoulders projecting through said slots of the cutter-bar and provided with lugs resting within slots formed in the upper side of the finger-bar, and nuts for adjusting said boxes, substantially as described. 7th. In a lawn mower, the combination with the drive-wheel, the frame and the finger-bar, of the slotted cutter-bar supported upon said finger-bar, adjusting screws carried by the finger-bar and loosely passing through the slotted portions of the cutter-bar, boxes arranged upon said adjusting screws, anti-friction rollers arranged between said boxes and the cutter-bar, and adjusting screws carried by the boxes for regulating the pressure of the rollers upon the cutter-bars, substantially as described.

No. 47,701. Heating Attachment for Gas Stoves.

(*Appareil de chauffage pour poêles à gaz.*)

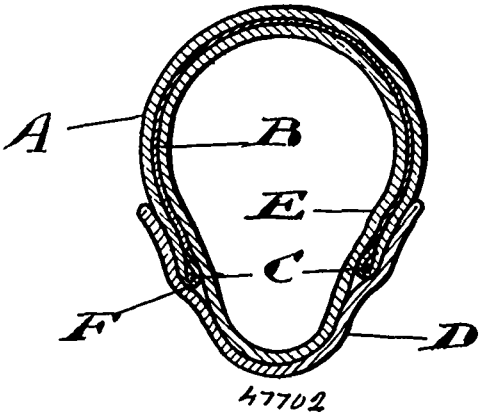
Joseph Guy, New York, State of New York, U.S.A., 14th December, 1894; 6 years.

Claim.—A detachable heater for gas or oil or other cooking stoves, consisting of supporting drums open at their lower ends and adapted to rest upon the stove over the burners thereof, and the central depending box or drum carried by and communicating with



said supporting drums, and having at its lower end an exit opening or openings for the heated air, substantially as set forth.

No. 47,702. Cycles. (*Cycle.*)



Ebby Dyer, Toronto, Ontario, Canada, 14th December, 1894; 6 years.

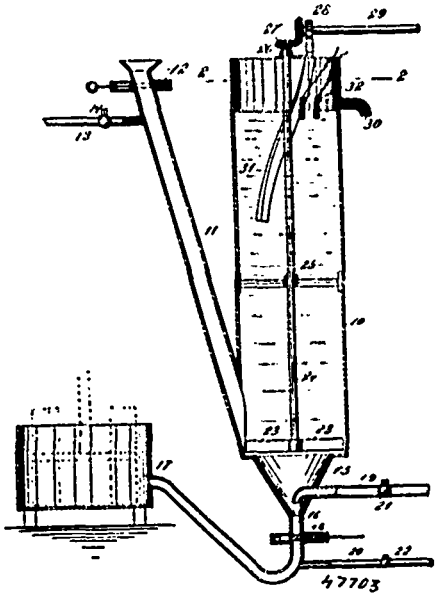
Claim.—1st. In a cycle, the combination of the rim, an inflatable tube encircling the rim, and an outer covering of leather enclosing the inflatable tube, substantially as specified. 2nd. In a cycle, a tire consisting of an inflatable tube fitted to the rim, an outer covering of leather inclosing the inflatable tube and the outer covering, substantially as specified. 3rd. In a cycle, the combination of the tire, consisting of an inflatable tube, an outer covering of leather inclosing the inflatable tube, a lining of fabric material interposed between the outer covering and the inflatable tube, the edges of which are stitched to the edges of the outer covering, a continuous retaining wire inserted in each edge of the outer covering, and the rim having an annular groove in each side thereof into which is adapted to enter the continuous retaining wire, substantially as specified.

No. 47,703. Separator. (*Séparateur.*)

William W. Gillespie, Stanford, Connecticut, U.S.A., 14th December, 1894; 6 years.

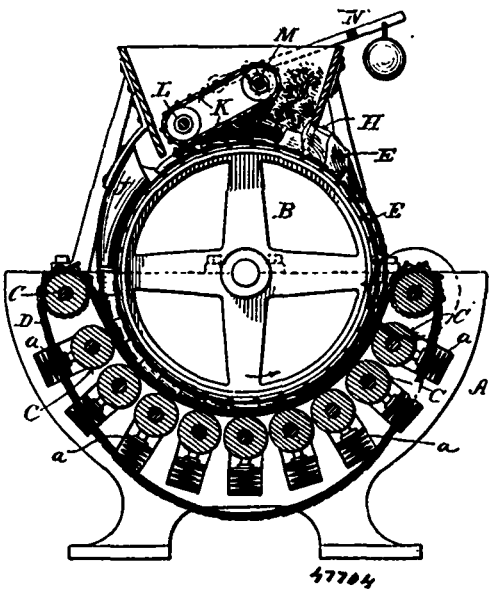
Claim.—1st. The herein described separator and apparatus for floating powdered minerals and clay in a perpendicular column of water, comprising a vertical tank provided with a rotary agitator, a supply pipe discharging into the lower portion of the tank, a valved outlet pipe leading from the bottom of the tank, a wet mill or grinder into which the outlet pipe discharges, and a flushing mechanism for the lower portion of the tank, substantially as described. 2nd. The combination, with the tank having a contracted lower end and the valved outlet pipe leading from the bottom thereof, of a flushing pipe discharging downwardly into said contracted end above the

valve, and a second flushing pipe below the valve, substantially as described. 3rd. A separator, consisting of the vertical tank provided with a tapering lower end from which leads a valved outlet pipe, an overflow pipe or supply at the upper end of the tank, the inclinations



31, on the inner side of the tank at its upper portion, an agitator within the tank, flushing pipes above and below the valve in the outlet pipe, a common supply pipe discharging into the lower end of the tank, and a valved water pipe connected with the said supply pipe, substantially as set forth. 4th. In an apparatus of the kind described, comprising a tank having an outlet pipe near the top, a valved discharge pipe opening from the bottom, flushing pipes delivering into the discharge pipe above and below the valve thereof, and an agitator within the tank, substantially as described.

No. 47,704. Press. (*Presse.*)

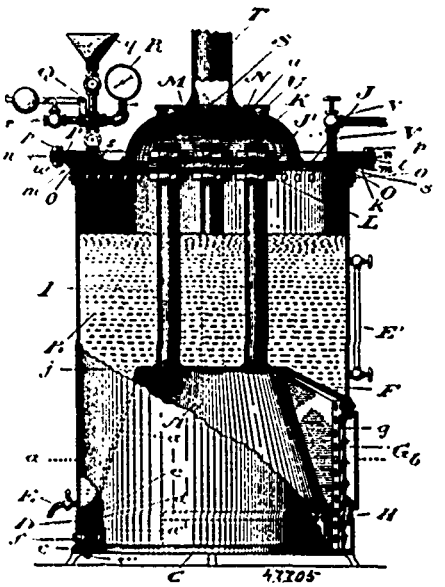


Valerius D. Anderson, Cleveland, U.S.A., 14th December, 1894; 6 years.

Claim.—1st. In a press, the combination of a drum or cylinder, a series of rollers arranged about said cylinder, a lag chain travelling between the rolls and the cylinder, and a series of independent cloth sections interposed between the cylinder and the chain and arranged to overlap one another at their sides and ends substantially as set forth, to form a continuous covering for the material being pressed. 2nd. In a press, the combination with the main cylinder or drum, of a series of cloths E, attached to said drum and arranged to overlap each other. 3rd. In a press of the character shown and described, a drum B, provided with pins or studs *c*, and a series of cloths E, provided with eyelets *b*, to fit upon the pins or studs *c*. 4th. In combination with drum B, provided with pins *c*, cloths E, provided with eyelets *b*, and latches F, adapted to close over the pins and retain the cloths in place. 5th. In a press, the combination of a rotatable drum or cylinder, cloths connected to opposite ends of the drum or cylinder, and extending inward toward each other, and a fixed guide adapted to enter between the cloths and the drum or cylinder and to turn the cloths outward therefrom. 6th. In combination with a drum or cylinder, and with cloths attached to opposite edges thereof, and extending inward toward each other, a guide or folder adapted to turn the cloths inward and lay them upon the face of the drum or cylinder. 7th. The herein described press, consisting of the following elements in combination, a main frame, a rotatable drum or cylinder mounted therein and provided with cloths E, a feed hopper G, an opening guide H, and folding guide J, for turning the cloths inward, a series of rollers C, arranged about the drum or cylinder, and a lag chain passing between the drum or cylinder and the roller, all substantially as shown and described. 8th. In combination with drum or cylinder B, provided with cloths E, opening guide H for turning the cloths outward, shelves or ledges I, to support the cloths while thus turned outward, and inturning guide J, for folding the cloths upon the cylinder, all substantially as shown. 9th. In combination with drum or cylinder B, having cloths E, opening guide H, shelves or ledges I, and brushes Q, adapted to act upon and clean the cloths while lying upon said shelves or ledges.

No. 47,705. Feed-Steamer Boiler.

(*Alimentateur de chaudières pour passer à la vapeur.*)

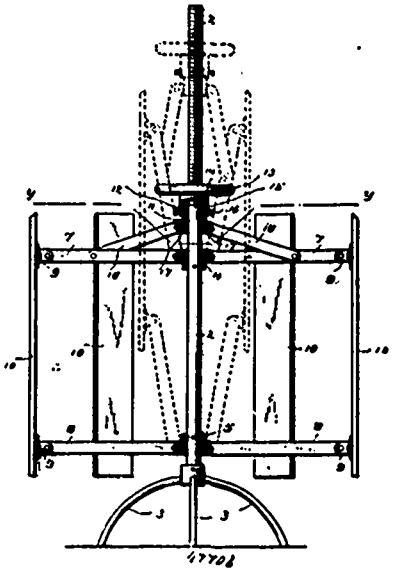


Edward Foster, Leamington, Ontario, Canada, 14th December, 1894; 6 years.

Claim.—1st. In a feed-steamer boiler, firepot A provided with sloping side *a*, and vertical bottom portion a^1, in combination with shell of boiler D, rivetted to the bottom portion a^1 of the firepot A, substantially as described and for the purpose specified. 2nd. In a feed-steamer boiler, firepot A provided with lugs *d*, formed on the vertical portion a^1 of the firepot, in combination with the base plate C, bolted to the lugs d^{11} by the bolts *e*, substantially as described and for the purpose specified. 3rd. In a feed-steamer boiler, firepot A, shaped like the frustum of a cone and provided with a vertical portion a^1, in combination with the shell of the boiler D, and base plate C, provided with rim *c*, and bolted to lugs *d*, formed in the vertical portion a^1 of the firepot by bolts *e*, substantially as described and for the purpose specified. 4th. In a feed-steamer boiler, a firepot A made of a solid piece of cast-iron having sloping sides and threaded flue holes j^1, a projection F, and flange *g* on projection F, in combination with door frame G, the base plate C, bolted to lugs formed in the firepot, rim *c*, shell of boiler D, and screw-threaded flues I, substantially as described and specified. 5th. In a feed-steamer boiler, the firepot A, shaped as shown, and rigidly attached to the base plate C, and shell of boiler D, in combination with flues I, screw-threaded at either end, the head of the boiler J, recess J^1 with threaded holes *w*, packing K, plate M, jamb nut L, and lock nut N, substantially as described and for the purpose specified. 6th. In a feed-steamer boiler, the shell D of boiler with bent back portion *m*, in combination with flange O, provided with a sloping part *k*, and flat surface *l*, head of boiler J, rim P, formed on said head and shaped like flange O so as to engage therewith, the whole being rivetted together, substantially as described and for the purpose specified. 7th. In a feed-steamer boiler, the shell D, of boiler with bent back portion *m*, in combination with flange O, provided with sloping part *k*, and flat surface *l*, head of boiler J, rim P formed on said head and shaped like flange O so as to engage therewith, and the packing *n*, substantially as described and for the purpose

specified. 8th. In a feed-steamer boiler, the smoke chamber s, provided with openings U situate immediately over the top of the flues, and the covers u, substantially as described and for the purpose specified. 9th. In a feed-steamer boiler, the grate H, in combination, with the frame H^1, and h lugs formed thereon which are bolted to the base plate C, the firepot A shaped as shown, and provided with lugs d, which are bolted to the base plate C, the rim c, and the shell D rivetted to the firepot A, substantially as described and specified.

No. 47,706. Garment Stretcher. (*Tendeur de vêtement.*)

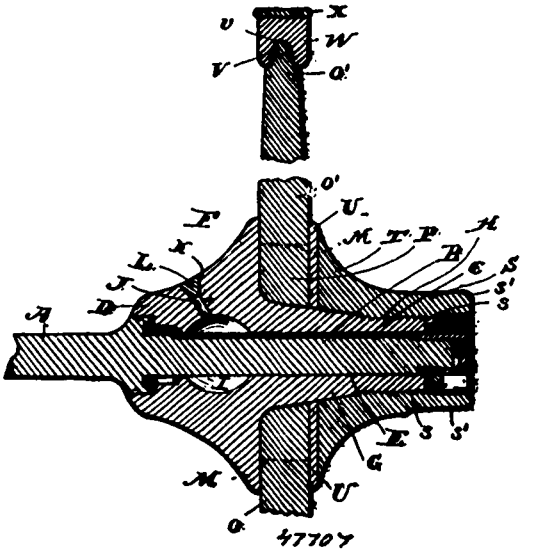


47704

Lucilla Mallory, Bridgeport, Connecticut, U.S.A., 14th December, 1894; 6 years.

Claim.—A device for stretching garments consisting of a central rod having an upper threaded portion, an upper and a lower block rigidly secured thereto, sets of arms pivoted to said upper and lower blocks, stretching devices pivotally secured to the outer ends of said arms, a sliding block 11, located above the upper fixed block, links pivoted to said sliding block and to one of the sets of arms, and a hand-wheel having a hub threaded to engage the threaded portion of the rod and secured to the siding block in such a manner as to permit the free rotation of the hub, whereby the stretching devices are caused to move upward and inward, or *vice versa*, as may be required to effect the intended purpose.

No. 47,707. Vehicle Wheel. (*Roue de voiture.*)

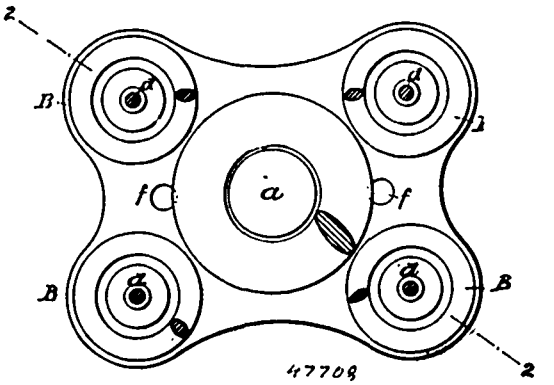


47707

Emilius Christian Ferdinand Becker, Milledgeville, Georgia, U.S.A., 14th December, 1894; 6 years.

Claim.—1st. In a vehicle wheel, the combination of the inner hub member provided with an abutting flange or disc, a tapered neck G, projected from said flange or disc and exteriorly threaded from an intermediate point to the outer end thereof, and a series of rounded mortices projected from the inner side of the flange or disc and surrounding the tapered neck, and tapered neck forming the base of said mortices, the wheel spokes having inner rounded tenon ends bevelled or tapered to correspond to the taper of said neck and adapted to have a wedging fit in said mortices, and the removable cap, substantially as set forth. 2nd. In a vehicle wheel, the combination of the inner hub member provided with an integral abutting flange or disc, a tapered neck G, exteriorly threaded for a portion of its length and a circular series of mortice projections projected from the inner side of said flange or disc, *joining with said tapered neck, and provided with continuous* sigmoidal-shaped sides forming there between mortice notches having widened circular portions at their bases formed partly by the tapered neck, and contracted spaces formed between the inwardly curved portions of the sides, the wheel spokes having inner bevelled abutting tenon ends correspondingly shaped to said mortice notches and having a registering wedging fit therein, and a removable hub-cap engaging the threaded portion of said neck and working at one side of the spoke tenons, substantially as set forth.

No. 47,708. Spring. (*Ressort.*)

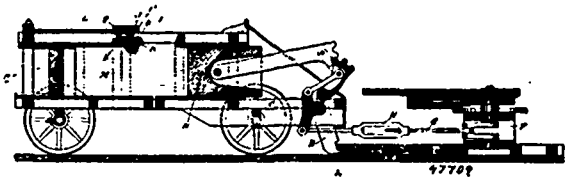


47708

Charles Scott, Philadelphia, Pennsylvania, U.S.A., 14th December, 1894; 6 years.

Claim.—1st. A compound or graduated spring in which top and bottom plates are combined with a single short heavy coil, and four longer and lighter coils grouped around said heavy coil, substantially as specified. 2nd. A compound spring in which are combined top and bottom plates, a central, short, heavy coil, and four longer and lighter coils, said lighter coils having their centres on lines passing diagonally through the centre coil, substantially as specified. 3rd. A spring structure in which are combined top and bottom plates, a central, short, heavy coil, and four longer and lighter coils, said lighter coils having their centres on lines passing diagonally through the centre coil and being arranged in pairs, one pair on each side of said centre coil, the pairs of the coils being further apart in the direction of the length of the spring than the coils of each pair are in the direction of the width of the spring, substantially as specified. 4th. A spring structure consisting of a central, short, heavy coil, four longer and lighter coils having their centres on lines passing diagonally through said centre coil, top and bottom plates composed of sheet metal, having struck up therefrom lugs for entering the ends of the various springs, and bolts centrally located in respect to each of the lighter springs and having heads contained in the lugs of the end plates corresponding to said springs, substantially as specified.

No. 47,709. Hay Press. (*Presse à foin.*)



47709

Jean Baptiste Doré, Laprairie, Quebec, Canada, 14th December, 1894; 6 years.

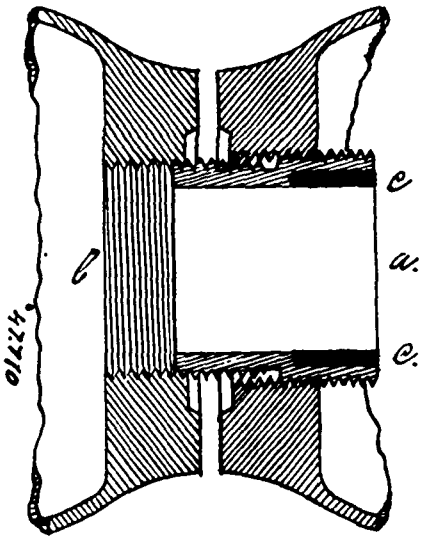
Claim.—1st. In a hay press, the two braces B, secured at D, and resting against lugs b^2, substantially as described and for the purposes set forth. 2nd. In a hay press, a connecting rod G, between the horse power F, and hay press A, having a swivel nut H, substantially as described and for the purposes set forth. 3rd. In a hay press, a swinging roller J, having a strong frame K, pivoted at *k*, and provided with the lip k^1, that butts against the piece L, to support it, and springs Q, substantially as described and for the purposes set forth.

No. 47,710. Radiator Coupling. (*Joint de calorifères.*)

Martin Nelson, Toronto, Ontario, Canada, 14th December, 1894; 6 years.

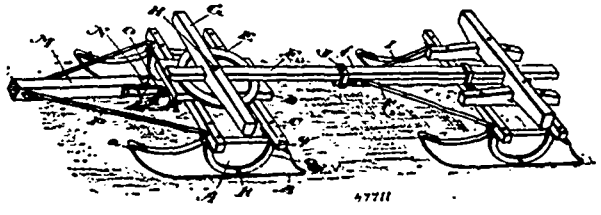
Claim.—The connecting of two or more radiator sections with a

right hand screwed hollow coupling having recesses in body of same, for the purpose as set forth, one end of coupling being larger than the other end, and having outside right hand threaded surfaces,



the large end or one half of the coupling with a finer, the smaller end or the other half a coarser pitch of screw, for the purpose substantially as set forth.

No. 47,711. Sleigh. (*Traîneau.*)



Herbert W. Howell, St. George, Ontario, Canada, 14th December, 1894; 6 years.

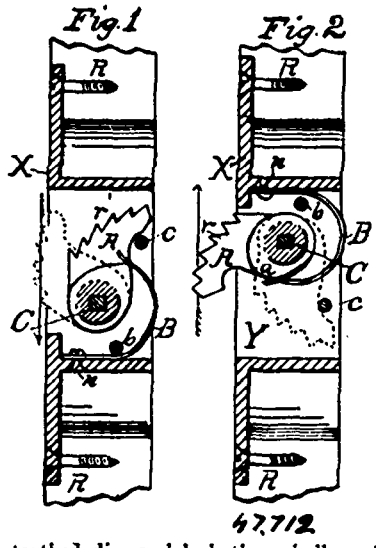
Claim.—1st. In a bob-sleigh, the combination of the benches the runner and means for pivotally connecting the runner to the benches, substantially as specified. 2nd. In a bob-sleigh, the combination of the benches, a bracket rigidly secured to the benches, and a runner pivotally connected to the bracket, substantially as specified. 3rd. In a bob-sleigh, the combination of the benches, a runner, a semi-circular shaped bracket located on each side of the runner, each end of each of the semi-circular shaped brackets having an outwardly flaring flange, means for rigidly securing the flanges of the brackets to the benches, and means for pivotally connecting the runner to the brackets, substantially as specified. 4th. In a bob-sleigh, the combination of the benches, a runner, a semi-circular shaped bracket located on each side of the runner, each end of each of the semi-circular shaped brackets having an outwardly flaring flange, means for rigidly securing the flanges of the brackets to the benches, means for pivotally connecting the runner to the brackets, a sand board connected to the top of the benches, a circle connected to the sand board, the reach and bolster and a king bolt passing through the reach and sand board, substantially as specified. 5th. In a bob-sleigh, the combination, with the benches of the front bob of a tongue pivotally connected to the middle of the front bench, and stays connected to each side of the tongue and to each end of the front bench, substantially as specified.

No. 47,712. Automatic Sash-Lock.

(*Arrête-croisée automatique*)

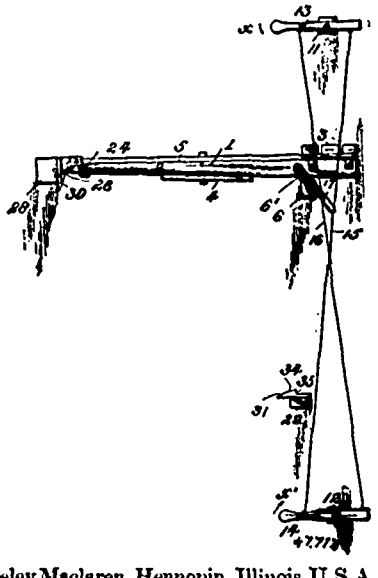
James Seadler, Sacramento, Sacramento County, California, U.S.A., 14th December, 1894; 6 years.

Claim.—1st. A sash fastener, comprising a casing, a sash engaging dog pivoted therein, and having a cam projecting from its hub or axis, and a spring secured at one end to the casing and bearing at its opposite end on said cam, the said spring bearing on one side of the cam to hold the dog projected and on its other side to hold it retracted, substantially as herein described. 2nd. A sash fastener, comprising a casing, a dog therein provided with a cam, a double acting spring for holding the dog projected and retracted, a spindle for operating the dog, a chambered face plate having an opening through which said spindle projects, a knob on the spindle, a toothed disc on the spindle within the face plate, a collar E clamping the disc against the hub of the knob, and a sliding dog on the face plate



to engage the toothed disc and lock the spindle, substantially as herein described.

No. 47,713. Gate. (*Barrière.*)



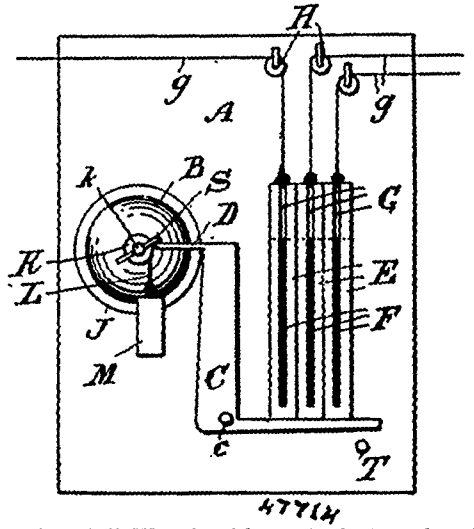
Arthur Wellesley Maclaren, Hennopin, Illinois, U.S.A., 14th December, 1894; 6 years.

Claim.—1st. The combination with a gate, of an upright or post arranged adjacent to one end of said gate, an arm secured to said upright and forming a pivotal point for the gate, a second arm secured to the upright near its upper end, a shaft loosely passing through said second arm, secured to the gate and provided with an angularly-bent portion, posts or uprights arranged at opposite sides of the gate, operating levers pivotally secured to said posts, wires or rods secured to the said levers in the manner described, one of said wires or rods being secured to the angularly-bent portion of the shaft, posts or uprights arranged adjacent to the gate, and provided with catches or keepers, latches carried by the gate and adapted to engage with said catches when the gate is in its closed and open positions, horizontally arranged rods connected at one end with said latches, and a rock-lever secured to the shaft to the arms of which lever the opposite ends of the said rods are secured, all arranged for co-operation as described. 2nd. The combination with a gate of an upright or post arranged adjacent to one end of said gate, an arm secured to said upright and forming a pivotal point for the gate, a second arm secured to the upright near its upper end, a shaft loosely passing through said second arm, secured to the gate and provided with an angularly-bent portion, posts or uprights arranged at opposite sides of the gate, operating levers pivotally secured to the said posts, wires or rods secured to the said levers in the manner described, one of said wires or rods being secured to the angularly-bent portion of the shaft, posts or uprights arranged adjacent to the gate and provided with catches or keepers, latches carried by the

upright or post of the gate and consisting of rods arranged upon opposite sides of the upright having a vertical spring portion, and an upper bowed portion secured to the said post or upright said vertical spring portions of the rods being adapted to engage with the said catches or keepers when the gate is in its closed and open positions respectively, horizontally arranged rods connected at one end with the spring portions of the latches, and a rock-lever secured to the shaft, to the arms of which lever the opposite ends of said horizontal rods are secured, as described.

No. 47,714. Burglar and Fire Alarm.

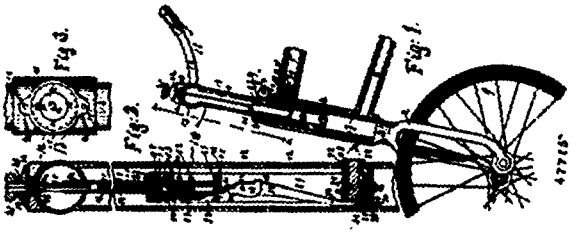
(*Avertisseur à sonnerie.*)



Archibald Campbell Wurtele, Montreal, Quebec, Canada, 14th December, 1894; 6 years.

Claim.—1st. In a fire and burglar alarm, the combination with a gong and means for ringing the said gong secured to a suitable base-board, of a bell crank-lever C, pivoted to the said board near its lower edge, an arch D, secured to the vertical limb of the said bell crank-lever, the said arm D, being adapted to engage a detent of the ringing mechanism of the said gong, when the said bell crank-lever is in its normal position, a series of tubes E, arranged over the horizontal limb of the said bell crank-lever, the weights G, suspended by the cords or threads *g*, in the same tubes, and adapted when the said threads are broken or burned to fall on the horizontal limb of the bell crank-lever and disengage the arm D, from the detent of the gong. 2nd. In a burglar and fire alarm, the combination with a series of slotted tubes open at the bottom, secured vertically to a suitable base-board, a series of weights suspended by threads, twine or wire, in the said tubes, a bell crank-lever pivoted to the said base-board so that its horizontal limb closes the bottom of the said tubes, an arm D, secured to the top of the vertical limb of the said bell crank-lever, the said arm D, being so arranged that when in its normal position it will act as a detent on ringing mechanism, of a bell or gong suitably secured to the said base and release the striking mechanism when the wire, thread or twine is burned or broken, substantially as set forth. 3rd. A burglar and fire alarm, consisting of a series of wires, threads or cords, stretched across the places desired to guard, a lever, one end of which is adapted to be depressed by the burning or breaking of one of the said wires, threads or cords, the other end of the said lever engaging a detent on the ringing mechanism of a bell or gong, in its normal position, adapted to be disengaged from said detent when one of said wires, threads or cords is broken, substantially as set forth.

No. 47,715. Bicycle Lock. (*Serrure de bicycle.*)

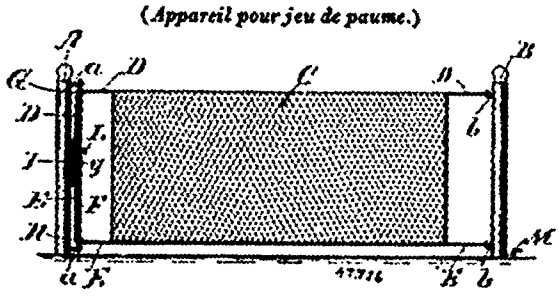


Samuel C. Hone, Saint Paul, Minnesota, U.S.A., 14th December, 1894; 6 years.

Claim.—1st. The bicycle lock having an elongated frame adapted to go into the steering tube or handle tube of the bicycle, the transversely arranged locking bolt or bar 35, sliding in a channel or tube in the end of the frame and projecting, in its locked position, with its free end beyond the frame of the lock where it engages a hole in the steering tube and a registering hole in the frame of the bicycle, said locking bar 35, having a slotted hole as 34, the lever 33, 67, pivoted in the frame of the lock and engaging with one end in the slot of the locking bar and having its other end actuated in one direction by a swinging, fan-shaped lever, as 58, and revolving cams or notched discs having interlocking pegs as 53, and intermediate non-turning tubes, as 50, all arranged upon a standard as 46, and operated by a disc, as 55, having a rod or spindle as 18, extending to the outside of the machine, a graduated dial and operating knob secured upon the exterior end of said spindle bar 18, a mark upon the seat of said dial, by which to turn the dial according to a predetermined combination or arrangement of the discs 55 and 53, relatively to each other and to the fan-lever 58, so as to push the locking bar forward, or allow it to be retracted into the frame of the lock, substantially as shown and described and for the purpose set forth. 2nd. In a bicycle, the combination of the hollow frame bar 6, having in one of its sides a locking hole or aperture normally concealed from external view, and reach, the steering wheel 1, having the steering-fork 2, and the steering tube 7, extending through the hollow frame bar 6, and having the side hole 44, registering with the said locking hole in the frame, the handle tube 10, carrying the handle bar 12, and handles 11, and on its head 13, the seat piece 16, and operating knob 21, having a graduated dial as 22, the said handle tube 10, having a series of holes as 42, adapted to register alternately with the hole 44, in the steering tube, according to the height the handle tube is set in, the transverse tube 28, adapted to normally extend through the hole 44, and one of the holes 42, so as to lock the steering tube and the handle tube together, the locking bar 35, sliding in the tube 28, and engaging the locking hole in the frame bar 6, a swinging lever or arm engaging and operating the locking bar, a suitable locking mechanism located inside the handle tube 10, operating the said lever or arm, and having an extensible operating rod, as 18, connecting the locking mechanism with the operating knob 21, upon the head of the handle tube, said operating rod 18, having the retaining collar 98, all substantially as shown and described and for the purposes set forth. 3rd. A lock for bicycles and tricycles adapted to be inserted into the handle tube or steering tube of the machine, and having a sliding locking bolt, pin or bar with a side hole or notch and being adapted to engage holes in the sides of the steering tube or handle tube or both, and a hole, aperture or hollow in the inner side of the frame portion through which the steering or handle tube passes, the lock frame 23, 24, 25, 26, 27, having the round supporting bar 63, the guiding disc 40, the open-sided hole 27, and the lug 30, the tube 28, housing the locking bar, and being snugly inserted in the hole 27, and having the notch 29, guiding on the lug or pin 30, and the upper and deep notch or slot 31, the two-part lever 33, 67, fulcrumed on the round bar or pin 63, and having one end engaging the hole in the locking bolt, and the other end engaging an arm as 61, of a swinging fan as 58, pivoted or hinged as at 59, 60, in the frame of the lock, a series of revoluble interlocking discs arranged centrally upon a standard, and having notches substantially as 56, for receiving the swinging edge 57, of the fan 58, or by their circular periphery repeal said fan, one of said discs having secured to it an operating rod as 18, having the four cornered end 19, extending above the head of the handle tube, the seat piece 16, having the mark 17, the operating knob 21, having the graduated dial 22, and a square hole in the centre fitting the four cornered end of the operating rod, and being changeable in four distinct directions upon the rod, the marks 73 and 74, the collar 98, and the set screw 20, for adjustably securing the knob 21, said two-part lever 33, 67, having the stop joint arm 68, stopping against the lever section 33, and the springs 65, and 69, all arranged and located, substantially as shown and described and for the purpose specified.

No. 47,716. Lawn Tennis Apparatus.

(*Appareil pour jeu de paume.*)

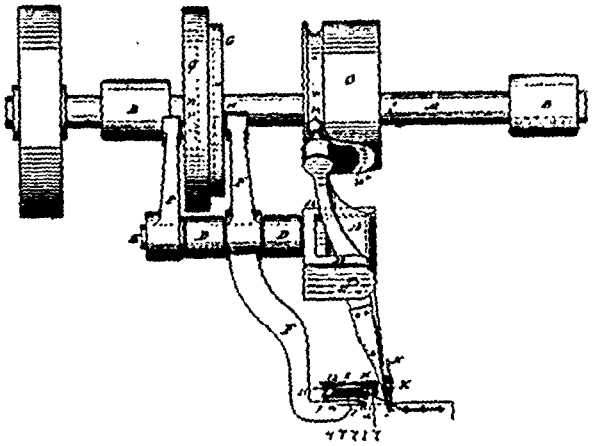


William B. Hopkins, Washington, Columbia, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. In a stretching tightening device for lawn tennis nets, the bar having apertures to connect it to a tennis post, combined with the rollers or guide pulleys journalled in the bar for the net ropes, and the windlass journalled in the bar carrying the ropes, and adapted to be turned at right angles to the turn of the pulleys, as set forth. 2nd. In a lawn tennis apparatus, the combination of

the post provided with the catch M, the tightening device, the tennis net adapted to be wrapped around the tightening device and secured to the post, and the protector adapted to be placed over the assembled parts and locked to the said catch, as set forth.

No. 47,717. Sewing Machine. (*Machine à coudre.*)



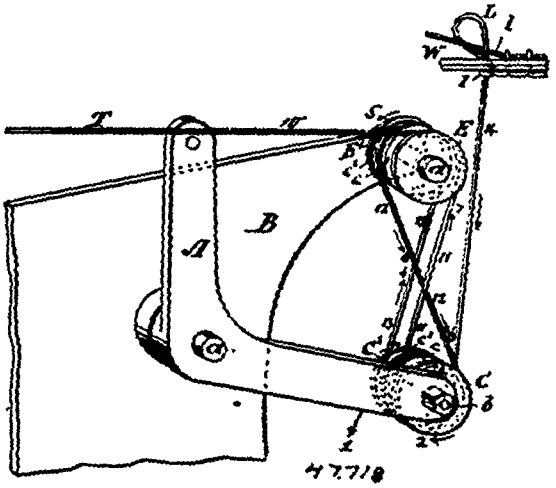
47717

The Scott Shoe Machinery Company, assignee of Jacob R. Scott both of New York, State of New York, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. The combination with a needle, and a bobbin-holder, of a non-rotary support composed of two side plates 13 and 14, and a fixed part 15 rigidly connecting said side plates together and constituting a loop-stop, a loop-carrier which carries both branches of the loop round the bobbin-holder and between the latter, and the two side plates of the non-rotary support, and places both of said branches upon the aforesaid stop which retains the loop while the loop-carrier is disengaged therefrom, and mechanism for operating the loop-carrier, substantially as described. 2nd. The combination with a needle, and a swinging lever, of a non-rotary support fixed to the lever and composed of side plates 13 and 14, and a segment 15 connecting said plates and one edge of which constitutes a *loop-stop*, a bobbin-holder arranged within the non-rotary support and having its bobbin rotated by drawing the thread therefrom, a loop-carrier which carries both branches of the *loop* around the bobbin-holder and between the latter and one of the side plates of the non-rotary support, and places both of said *branches upon* the aforesaid stop which retains the loop while the loop-carrier is disengaged therefrom, and mechanism for operating the loop-carrier, substantially as described.

No. 47,718. Take-Up for Sewing Machines.

(*Accroche-fil pour machines à coudre.*)

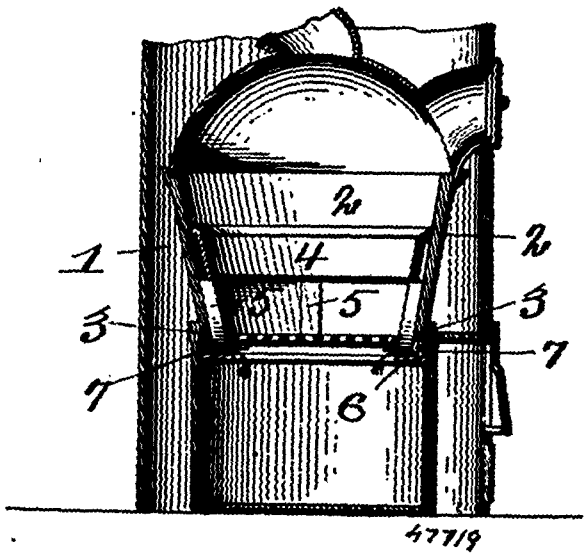


47718

The Scott Shoe Machinery Company, assignee of Jacob R. Scott, both of New York, State of New York, U.S.A., 15th December, 1894; 6 years.

Claim.—The combination with stitch forming devices, a tension device, a pivoted take-up lever, and means for actuating the lever, of a stationary bearing *d* carrying two independently rotatable pulleys E and E¹, each having a peripheral groove and a stud *b* mounted on the free end of the take-up lever and carrying two independently rotatable pulleys C and C¹ each having a peripheral groove, substantially as and for the purposes described.

No. 47,719. Furnace. (*Fournaise.*)

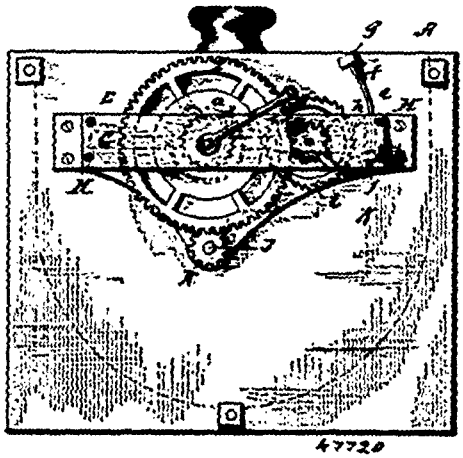


47719

The Howard Furnace Company, assignee of Charles Dezany Howard, all of Syracuse, New York, U.S.A., 15th December, 1894; 6 years.

Claim. 1st. The combination, in a furnace, with a fire-pot in the form of a truncated cone, of a flanged ring adapted to be inserted therein and supported at a point between the top and bottom of said fire-pot, and means whereby air may be directed against said ring, heated thereby, and discharged into the decomposing zone of the fire-pot, substantially as specified. 2nd. The combination, in a furnace, of a truncated conical fire-pot, a ring adapted to fit therein about midway between the top and bottom of the fire-pot, and conduits leading from the ash-box to said ring so as to conduct a heated current of air against the ring and then discharge said heated air into the fuel and the decomposing zone, substantially as specified. 3rd. The combination, in a furnace, of a truncated conical fire-pot, a ring situated therein about midway between the top and bottom of said fire-pot, and depending flues or conduits communicating with the ring and the ash-box of the furnace, whereby a current of hot air may be conveyed from the ash-box to the ring and from thence to the decomposing zone of the furnace, substantially as specified. 4th. The combination, in a furnace, of a truncated conical fire-pot, a sectional ring situated therein about midway between the top and bottom of said fire-pot, each section having depending flues or conduits communicating with the ring and ash-box, whereby a current of air may be conducted from said ash-box to the ring, and from thence to the decomposing zone to the fuel, substantially as specified.

No. 47,720. Churn. (*Barratte.*)



47720

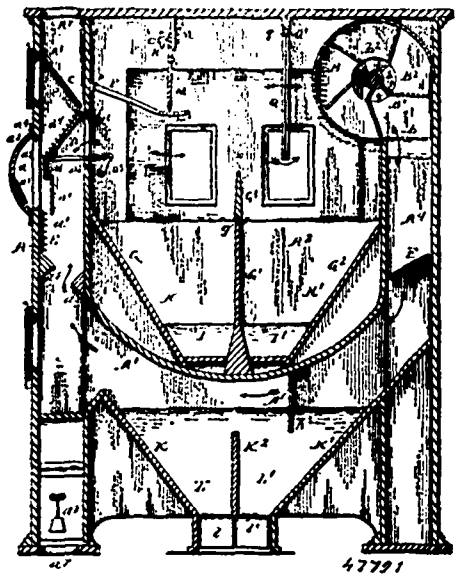
William H. Monroe and Eddy G. Monroe, both of Sullivan, Illinois, U.S.A., 15th December, 1894; 6 years.

Claim.—The combination with the plates F, G, secured upon the side of the churn body, and the operating gearing mounted between said plates and having an escapement wheel *i*, of a vibratory arm pivoted near its lower end on the side of the churn body, an escapement pawl at the lower end of said arm engaging the escapement wheel, a weight secured to the upper end of the vibratory arm, and a cam mounted on the side of the churn body within

the path of vibration of the vibratory arm and adapted to bind against the side of said arm, and provided with a handle extending beyond the plate G.

No. 47,721. Purifier, Separator and Grader.

(*Epurateur, séparateur et appareil de gradation.*)

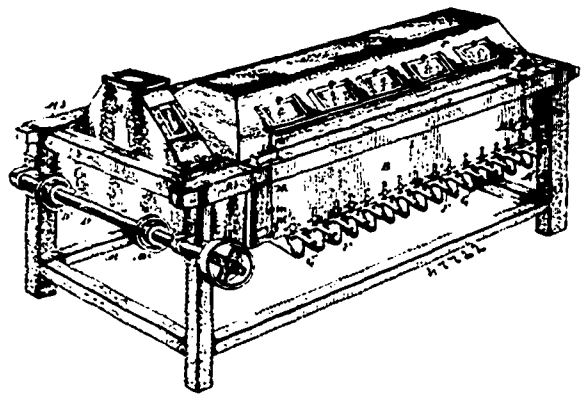


David J. Davidson, S. Martin and Stephen G. Martin, all of Port Huron, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. In a continuous air belt purifier, separator and grader, the combination with a fan and fan case, of an air chamber communicating with the interior of the fan case, separating devices located in said air chamber, a vertical air trunk communicating with said air chamber, an air passage leading from the fan into said vertical air trunk separate from said air chamber, said vertical air trunk provided with a feed opening at its upper end, with a feed controlling valve beneath said opening, with an adjustable scatter plate, and with an adjustable lip, substantially as and for the purpose described. 2nd. In a continuous air belt purifier, separator and grader, the combination with a fan and fan case, of an air chamber communicating with the interior of a fan case, separating devices located in said air chamber, a vertical air trunk communicating with said air chamber, an air passage leading from the fan into the vertical air trunk separate from said chamber, an adjustable scatter plate provided with a depending lip located within said vertical air trunk, and means connected with said scatter plate for adjusting said plate and lip, substantially as set forth. 3rd. In a continuous air belt purifier, separator and grader, the combination with a fan and fan case, of an air chamber communicating with the interior of said fan case, separating devices located in said air chamber, a vertical air trunk communicating with said air chamber, an air passage leading from the fan into said vertical air trunk separate from said air chamber, said vertical air trunk provided with a feed opening at its upper end and with a discharge opening at its lower end, and with an automatic discharge controlling valve a^5, said valve provided with a weighted arm a^6, substantially as set forth. 4th. In a purifier, separator and grader, the combination with a casing having vertical air trunks at its opposite sides, and an air trunk toward its base connecting said vertical air trunk forming an air chamber in the central portion of the case, between and above said air trunks, one of said vertical trunks communicating with said air chamber, a fan casing communicating with the upper end of the opposite vertical trunk, and with the interior of said air chamber, cant boards at the base of said air chamber, a division wall between said cant boards provided with an adjustable wing at its upper end, and diaphragms depending from the casing into the air chamber, and having a lateral adjustment therein, one of said diaphragms being also vertically adjustable, substantially as set forth. 5th. In a continuous air belt purifier, separator and grader, the combination with a fan casing, of an air chamber communicating with the fan casing and having separating devices therein, a vertical air trunk communicating with said air chamber, an additional vertical air trunk on the opposite side of the air chamber communicating with the interior of the fan casing, and an air trunk connecting the vertical air trunks beneath the air chamber and separated therefrom, said connecting air trunk provided with inclined walls K, K^1, and with a division wall K^2, there between forming dead air chambers L and L^1, provided with discharge openings at the base of said connecting air trunk, substantially as set forth. 6th. In a continuous air belt purifier, separator and grader, the combination with a fan and fan casing, of an air chamber communicating with the interior of said fan casing, separating devices located in said chamber, a vertical air trunk communicating with said air chamber, an air passage leading from the fan into said vertical air trunk separate from said air chamber, an adjustable scatter plate D, and lip D^1, located in said vertical air trunk, an additional scatter plate E, below the scatter plate D, deflecting devices located in said air trunk, a feed opening in the top of said vertical air trunk, an automatic feed controlling valve located in said air trunk below said opening, a discharge opening in the base of said air trunk, and an automatic discharge controlling valve located in said trunk above the discharge opening, substantially as set forth. 7th. In a continuous air belt purifier, separator and grader, the combination of an inclosing case, a partition located therewithin forming an air chamber A^2, and vertical air trunks A^3, A^4, communicating with said air chamber, inwardly inclined walls K, K^1, forming an air trunk A^5, connecting the vertical air trunks A^3 and A^4, a fan and fan casing communicating with the chamber A^2, and with the air trunk A 4, cant boards G, G 2, inclined inwardly within the chamber A 2, a dividing wall C 1 rising from the base of said air chamber between said cant boards, adjustable diaphragms depending into said air chamber from the top of said casing, a vertical wall E 2 rising from the base of the inclosing case between the inclined walls K, K^1, leaving an air passage above said vertical wall K^2, the vertical air trunk A^3 provided with a feed opening at the top thereof and with a discharge opening at the base thereof and with valves to control the feed thereinto and the discharge therefrom, substantially as set forth. 8th. In a continuous air belt purifier, separator and grader, the combination of a fan casing, an air chamber communicating with the interior of the fan casing, a vertical air trunk communicating with said air chamber and bulged intermediate its extremities, an air passage leading from the fan into said vertical trunk separate from said air chamber, an adjustable scatter plate D, and lip D^1 located in said vertical air trunk adjacent to the bulged portion thereof, an additional scatter plate E below the bulged portion of the vertical trunk, a feed opening in the top of said vertical air trunk, an automatic feed controlling valve located in the air trunk below said opening, a discharge opening in the base of said vertical trunk, an automatic discharge controlling valve located in said trunk above the discharge opening, and separating devices located in said air chamber, the bulged portion of said vertical trunk providing a passage way in front of the scatter plate D and lip D^1 and serving as a deflector, substantially as set forth.

No. 47,722. Adjustable Cut-Off Separator and Grader.

(*Détente ajustable pour appareil de nettoyage et de gradation.*)



David J. Davidson, Abraham S. Martin and Stephen G. Martin, all of Port Huron, Michigan, U.S.A., 15th December, 1894; 6 years.

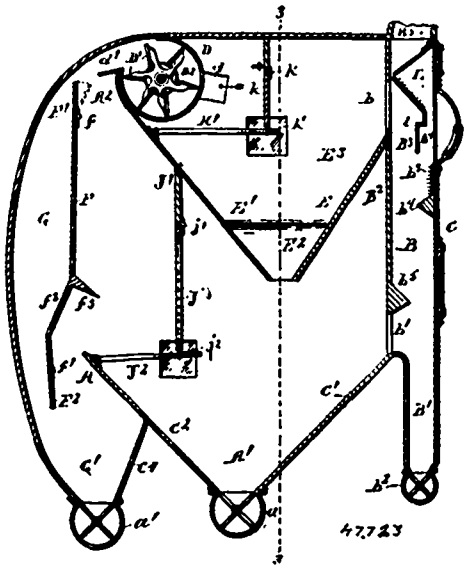
Claim.—1st. In cut-off separator and grader, a screen, a bottom located beneath said screen provided with a series of longitudinal inverted V-shaped partitions separating said bottom into a series of longitudinal troughs, transverse ported slides to open the bottom of said troughs at any desired point, discharge ducts arranged beneath each of said ported slides, said bottom and said screen simultaneously agitable in the same direction, substantially as set forth. 2nd. In a cut-off separator and grader, the combination of a screen, a bottom located therebeneath, means for vibrating said bottom and screen in the same direction, a series of longitudinal inverted V-shaped partitions secured to the upper side of said bottom parallel to each other and separating said bottom into a series of longitudinal troughs, a series of transverse ported slides adapted to open the bottom of all of said troughs at any desired point, and inclined discharge ducts secured to the bottom beneath each of said slides, substantially as set forth. 3rd. In a cut-off separator and grader, an agitable frame B, a screen located therein, a bottom located at the base of said frame beneath said screen provided with a series of longitudinal inverted V-shaped partitions separating said bottom into a series of longitudinal troughs, a series of transverse ported slides to open the bottom of said troughs, a discharge duct arranged beneath each of said slides, and means for agitating said frame, substantially as set forth. 4th. In a cut-off separator and grader, an agitable frame B, a screen located therein, a bottom located at the base of said frame

beneath said screen provided with a series of longitudinal inverted V-shaped partitions separating said bottom into a series of longitudinal troughs, a series of transverse ported slides to open the bottom of said troughs, a discharge duct arranged beneath each of said slides, and means for agitating said frame, said agitable frame made vertically adjustable, substantially as set forth. 5th. In a cut-off separator and grader, the combination of a supporting frame A, *an agitable frame* B, *a screen engaged with the agitable frame and* means to vertically adjust the agitable frame, adjustable follow boards, said agitable frame having a bottom located beneath said screen provided with a series of longitudinal troughs, a series of transverse ported slides to open the bottom of said troughs, a transverse discharge duct arranged beneath each of said slides, substantially as set forth. 6th. In a cut-off separator and grader, an agitable frame, a screen engaged therewith, a bottom located beneath said screen provided with a series of longitudinal troughs, a series of transverse ported slides to open the bottom of said troughs at any desired point, a transverse inclined discharge duct arranged beneath each of said slides, substantially as set forth. 7th. In a cut-off separator and grader, an agitable frame, a screen engaged therewith, a bottom located beneath said screen provided with a series of longitudinal troughs, a series of transverse ported slides to open the bottom of said troughs at any desired point, a transverse inclined discharge duct arranged beneath each of said slides, and means to prevent the clogging of the screen, substantially as set forth. 8th. In a cut off separator and grader, an agitable frame, a screen engaged therewith, a bottom located beneath said screen provided with a series of longitudinal troughs, a series of transverse ported slides to open the bottom of said troughs at any desired point, a transverse inclined discharge duct arranged beneath each of said slides, and a bell crank agitable with said frame to prevent the clogging of the screen, substantially as set forth. 9th. In a cut-off separator and grader, the combination of a supporting frame A, provided with a feed hopper, an agitable frame B, provided with a receiving trough J, *beneath the hopper, a screen engaged with the agitable frame*, said agitable frame having a bottom beneath said screen provided with a series of longitudinal troughs, a series of transverse ported slides to open the bottom of said troughs, a transverse discharge duct located beneath each of said ported slides and means of simultaneously agitating the agitable frame with its bottom, screen and receiving trough, said receiving trough discharging upon said screen, substantially as set forth. 10th. In a cut off separator and grader, the combination of a frame A, provided with a main frame at the top thereof, an agitable frame adjustably suspended upon said main frame, and a screen engaged with said agitable frame, said agitable frame having a bottom beneath said screen provided with a series of troughs, a series of transverse ported slides to open the bottom of said troughs, and a transverse discharge duct arranged beneath each of said slides, substantially as set forth. 11th. In a cut-off separator and grader, the combination of a supporting frame A, an agitable frame B, a driving shaft, eccentrics connecting the agitable frame with the driving shaft, a screen located in the agitable frame, said agitable frame having a bottom provided with a series of troughs, and a series of transverse ported slides to open said troughs at any desired point, substantially as set forth. 12th. In a cut-off separator and grader, an agitable screen, a bell-crank to prevent the clogging of the screen, and adjustable brackets engaged upon the screen frame, one arm of said bell-crank engaged between said brackets whereby the bell-crank will be agitated by the movement of the frame, substantially as set forth.

No. 47,723. Adjustable Cut-off Purifier, Separator and Grader. (*Détente ajustable pour appareil de nettoyage et de gradation.*)

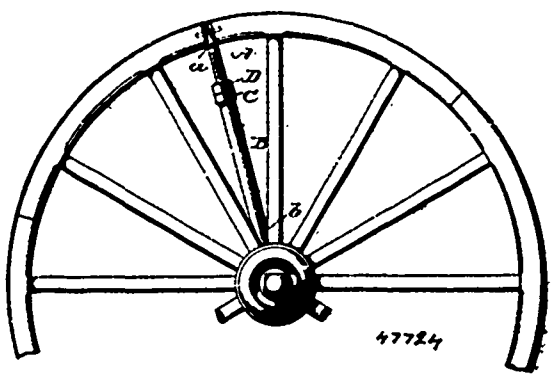
The Davidson Martin Manufacturing Company, assignee of David J. Davidson, all of Port Huron, Michigan, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. In a purifier, separator and grader, a separating chamber, a settling chamber G communicating toward its lower end with said separating chamber, a fan discharging into both said chambers, and a vertical trunk communicating with said separating chambers and with the casing of said fan, substantially as set forth. 2nd. In a purifier, separator and grader, separating chambers A and E^3 located the one above the other, a settling chamber G communicating toward its lower end with the chamber A, a fan casing located in the chamber E^3 and communicating therewith and communicating with the chambers A and G, and a vertical trunk communicating toward its base with the chamber A and toward its upper end with the chamber E^3, and a fan within said fan casing, substantially as set forth. 3rd. In a purifier, separator and grader, separating chambers A and E^3 located the one above the other, a settling chamber G communicating toward its lower end with the chamber A, a fan casing located in the chamber E^3 and communicating therewith and communicating with the chambers A and G, and a vertical trunk communicating toward its base with the chamber A and toward its upper end with the chamber E^3, and a fan within said fan casing, the chambers A and E^3, provided with depending diaphragms, substantially as set forth. 4th. In a purifier, separator and grader, the combination of a casing forming a separating chamber, a partition F forming a settling chamber G communicating toward its base with said separating chamber, a fan discharging into said separating chamber and into said settling chamber, a vertical trunk communicating with said separating chamber and with the fan casing, said partition F provided at its upper and lower ends with adjustable diaphragms, substantially as set forth. 5th. In a purifier, separator and grader, a casing provided with interior chambers A, E^3, separated one from



another, a vertical trunk extending upward on the same side of both of said chambers and communicating with each of said chambers, a chamber G communicating toward its base with the chamber A, a fan casing located in the chamber E^3 and communicating therewith on the side opposite the vertical trunk, and a fan in said casing discharging into the chambers A and G, substantially as set forth. 6th. In a purifier, separator and grader, a casing provided with interior chambers A, E^3, separated one from another, a vertical trunk extending upward on the same side of both of said chambers and communicating with each of said chambers, a chamber G communicating toward its base with the chamber A, a fan casing located in the chamber E^3 and communicating therewith on the side opposite the vertical trunk, and a fan in said casing discharging into the chambers A and G, said vertical trunk narrowed at its base and provided with a discharge opening at its lower end, and a feed controlling valve located in the upper end of said trunk, substantially as set forth. 7th. In a purifier, separator and grader, the combination of separating chambers A, E^3, a vertical trunk having openings b, b^1, on the same side thereof communicating respectively with said chambers, a feeding device at the top of said vertical trunk, a settling chamber G communicating toward its base with the chamber A, a fan having its casing communicating with the chambers E^3, A, G, a scatter plate L, and a securing plate b^3 located in said vertical trunk, substantially as set forth.

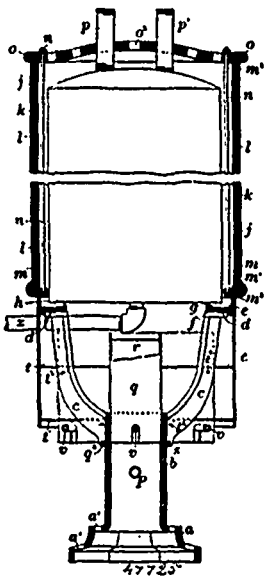
No. 47,724. Rim Tightener. (*Serre-jante de roue.*)



Emil Fisher and James H. Conklin, both of Hollsville, Illinois, U.S.A., 15th December, 1894; 6 years.

Claim.—The herein described rim tightener composed of a tubular section having one end tapering and depressed, and having the opposite end opened, a second section having a threaded portion to work in the open end of the tubular section, and having a wedge-shaped end provided with a notch to receive the dowel between the rim sections, and an adjusting nut and a jam nut on the said threaded portion, substantially as and for the purpose set forth.

No. 47,725. Gas Water Heater. (*Chauffeur d'eau à gaz.*)



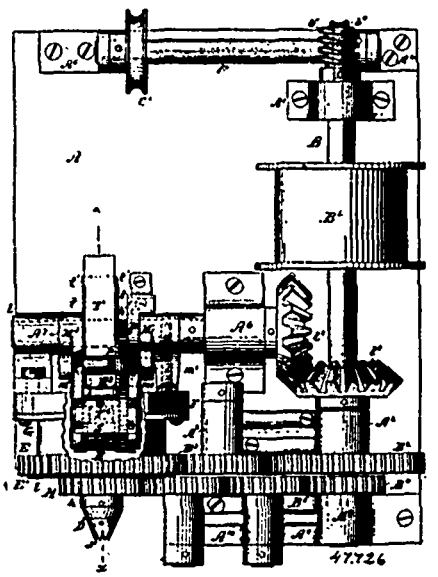
The Stewart Manufacturing Company, assignee of Samuel Stewart, both of Newark, New Jersey, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. A stand for upright heating boilers provided with gas burners to heat the boiler, a ring with projections to sustain the boiler above the said ring, and a jacket forming a flue about the boiler and supported upon the said ring, as set forth. 2nd. A stand for upright heating boilers provided with gas burners to heat the boiler, a ring with flange having a jacket centred thereon, and removable blocks with shoulders supported upon the ring to centre the boiler, as set forth. 3rd. A stand for heating boilers consisting in the foot *a*, column *b*, arms *c*, and ring *d*, and provided with a series of cylindrical burners *q*, *r*, means for sustaining the burners below the ring, and gas pipes extended to the several burners and provided with separate cocks, as set forth. 4th. A stand for heating boilers comprising the foot *a*, column *b*, provided with clamp q^1, the arms *c*, carrying ring *d*, and skeleton frames *t*, t^1, burners supported within the clamp and the frames, and gas pipes extended to the several burners and provided with separate cocks, as set forth. 5th. A stand for heating boilers comprising the foot *a*, column *b*, provided with clamp q^1, the arms *c*, carrying ring *d*, and skeleton frames *t*, t^1, burners supported within the clamp and the frames, a header Q, at one side of the column *b*, and connected with the several burners by gas pipes *r*, and a supply pipe P, passing through the column beneath the central burner, as and for the purposes set forth. 6th. A duplex jacket for heating boilers comprising inner and outer sheet metal shells, rings *m*, m^2, fitted between the shells, and means for securing the said rings and shells together, as and for the purpose set forth. 7th. A duplex jacket for heating boilers comprising inner and outer sheet metal shells, a cover provided with tapering ring m^2, the lower ring *m*, having inwardly projecting flange m^1, non-conducting lining between the shells, and bolts to clamp the rings together, as herein set forth. 8th. A stand for upright heating boilers provided with gas burners to heat the boiler, a duplex jacket with metallic rings at the top and bottom connected by bolts *n*, and centred upon a supporting ring for the boiler, and a cover upon the jacket with holes o^2, adapted to retard the exit of the heated air and gasses from the jacket, substantially as herein set forth.

No. 47,726. Tobacco Stripping Machine. (*Machine pour enlever les tiges de feuilles de tabac*)

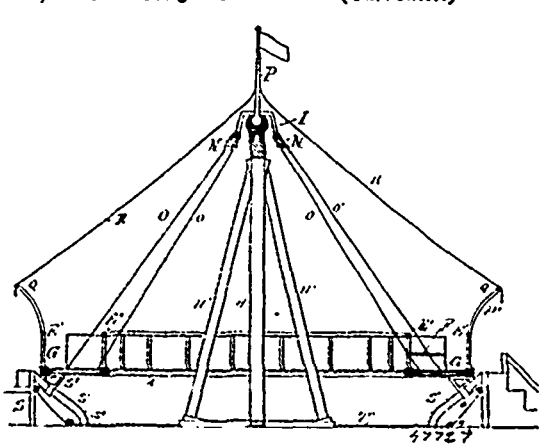
Samuel Reid, Jersey City, New Jersey, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. In a tobacco stripping or stemming machine, the combination of a hollow knife or cutter for cutting or stripping the leaves from the stem, and a device for passing the leaves through the cutter, substantially as specified. 2nd. In a tobacco stripping or stemming machine, the combination of a hollow knife or cutter for cutting or stripping the leaves from the stem, rolls for drawing the stem through the cutter, and an inclosed passage for leading the stems from said rolls, substantially as specified. 3rd. In a tobacco stripping or stemming machine, the combination of a hollow knife or cutter for cutting or stripping the leaves from the stem, adjustable rolls for drawing the stems through the cutter, and an inclosed passage for leading the stems from said rolls, substantially as specified. 4th. In a tobacco stripping or stemming machine, the combination of a knife or cutter for cutting or stripping the leaves from the stem, adjustable rolls for drawing the stems through the cutter, said rolls being so supported that they are held yieldingly toward each other so that the distance between the rolls will accommodate itself to stems of varying thickness, substantially as specified. 5th. In a cutter for a tobacco stripping or stemming machine, the combination of two tubes, one mounted within the other, one of said tubes having its extremity serrated, while the other tube is formed to co-act with such serrations, and means for rotating such tubes relatively to each other, substantially as specified. 6th. In a tobacco stripping or



stemming machine, the combination with a standard, of a hollow stationary drum secured to said standard, a movable drum rotatably mounted upon said stationary drum and having gear-teeth upon its periphery, a cutter secured to said movable drum, a spur-wheel rotatably mounted upon said movable drum, a cutter secured to said spur-wheel and co-acting with said cutter secured to movable drum, and means for rotating said drum and said spur-wheel relatively to each other, substantially as specified. 7th. In a tobacco stripping or stemming machine, the combination with a standard of a hollow stationary drum secured to said standard, a movable drum provided with spur-teeth rotatably mounted upon said stationary drum, cutters carried by said movable drum, and drawing mechanism for drawing the stems through the cutter, substantially as specified. 8th. In a tobacco stripping or stemming machine, the combination, with a hollow knife or cutter, of a guide for directing the levers to said knife or cutter, substantially as specified. 9th. In a tobacco stripping or stemming machine, the combination, with a hollow knife or cutter, of a guide for directing the leaves to said knife or cutter and means for adjusting the guide into and out of position, substantially as specified.

No. 47,727. Merry-Go-Round. (*Carrousel.*)

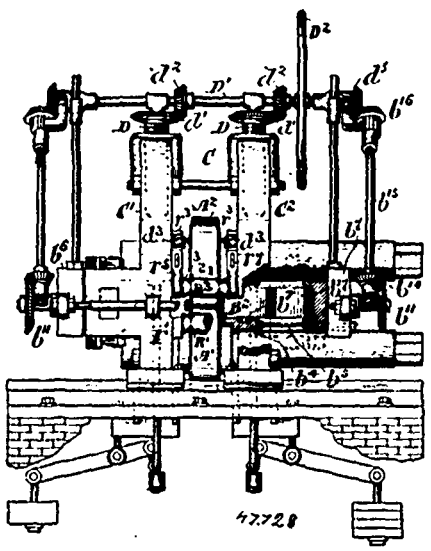


Clarence L. Barnhart, Flint, Michigan, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. In a merry-go-round, the combination of a mast, a cup-shaped cap at the top thereof, a ball-shaped head therein, balls in the cap on which said bearing is supported, a ring-shaped platform surrounding the mast, and rods or cables extending from the ball-shaped head to the platform, substantially as described. 2nd. In a merry-go round, the combination of a mast, a cup-shaped cap at the top thereof, the ball-shaped head thereon, balls in the cap

in which said head is supported, the ring cover J^1, forming a top for the cup, and bearing on the head above its centre line, the cage formed of the plate L, bars *m*, and ring m^1, depending over the top bearing on the mast, and the ring-shaped platform supported by rods or cables from said ring, substantially as described. 3rd. In a merry-go-round, the combination of the mast, a cage supported on the top of the mast, a ball and socket ball bearing between the cage and the mast top, and the ring-shaped platform supported from the cage free to revolve and oscillate, substantially as described. 4th. In a merry-go-round, the combination of the ring-shaped platform suspended from a central standard free to revolve and to swing, of inclined standards beneath the platform out of its line of movement shoes sliding thereon, and actuating devices to move the shoes up the standards to support and brake the platform, substantially as described. 5th. In a merry-go-round, the combination of the ring-shaped platform suspended from a central standard free to revolve and swing of inclined standards S^1, under the platform out of the line of its swinging movement, the vertical section S^2, at the foot of the standards, the shoes S^3, sliding on the standards, cords from all the shoes, and a common actuating lever to which said cords are secured by means of which the shoes are raised into contact with the platform to brake and support the same, substantially as described. 6th. In a merry-go-round, a ring-shaped platform comprising sections detachably secured together and comprising the sills B, the radial and timbers A, the flooring, the tie-plates E, connecting the adjoining end timbers, and suspension cables engaging the end timbers, of the sections substantially as described.

No. 47,728. Rolling Apparatus. (*Moulin à rouleaux.*)



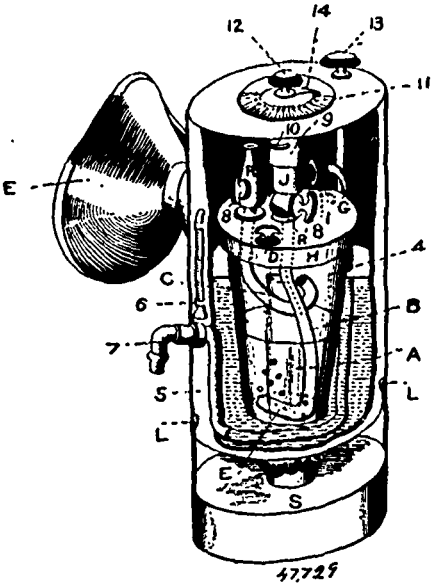
Levi D. York, Portsmouth, Ohio, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. In an apparatus for rolling metal, the combination with main rolls for rolling in different planes, of supplemental rollers for shaping edges of the rolled material, substantially as specified. 2nd. In an apparatus for rolling metal, the combination with main rolls for rolling in different planes, of supplemental rollers for shaping edges of the rolled material, said supplemental rollers being arranged in a pair or pairs, and one of each pair being adjustable relatively to its fellow substantially as specified. 3rd. In an apparatus for rolling metal, the combination with main rolls, of two pairs of supplemental rollers for operating upon edges of the rolled material, one of each pair of supplemental rollers being automatically adjustable into position, and the corresponding roller of the other pair being automatically adjustable out of position.

No. 47,729. Process and Apparatus for Generating and Applying Anaesthetics. (*Procédé et appareil pour générer et appliquer des anesthésiques.*)

Samuel J. Hayes, Chicago, Illinois, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. The process herein described of generating and applying anaesthetic vapours, which consists in warming a current of air and conducting the same below the surface of a narcotic liquid, and surcharging the narcotized vapour from said liquid by counter currents of warm air before leaving the generator, substantially as and for the purpose described. 2nd. The process herein described of generating and applying anaesthetic vapours, which consists in warming a current of air and conducting the same below the surface of a narcotic liquid in a closed vessel, commingling this narcotized vapour arising from said liquid by counter currents of warm air in said closed vessel, and finally surcharging the narcotized vapour with a regulated volume of warm atmospheric air before leaving the generator, substantially as and for the purpose described. 3rd. In an apparatus for generating anaesthetic vapours, the combination with an exterior vessel or casing, and a narcotic receptacle therein, of a tube which communicates with the interior of



said narcotic receptacle and has an outlet for permitting air to pass into the exterior casing, means for regulating the volume of air which passes from said tube into the exterior receptacle, an air induction pipe connected to said tube for supplying air thereto to pass into the narcotic receptacle and to the exterior casing, and a discharge pipe connected to the narcotic receptacle to conduct narcotized vapour, from said narcotic receptacle into the exterior casing, substantially as and for the purpose described. 4th. In an apparatus for generating anaesthetics, the combination, with an exterior casing or vessel, of a closed narcotic receptacle situated within said exterior casing and provided with a discharge to permit the narcotized vapour to pass from the narcotic receptacle into the exterior vessel, the air pipe or tube communicating with said narcotic receptacle and provided with an air outlet opening arranged to permit a current of warm air to discharge in close proximity to the outlet of the narcotic receptacle, means for regulating the escape of air into the exterior vessel, and an air induction pipe connected to said valved air tube, substantially as described. 5th. The combination of an exterior vessel adapted to contain a water-bath, an interior closed receptacle designed to receive a liquid narcotic and provided with a discharge at its upper end, the air tube having means for regulating the escape of air into the external vessel and having a depending pipe which extends into said closed receptacle, and an air inducting pipe leading through the water-bath in the exterior vessel and connected to the air tube, substantially as and for the purpose described. 6th. The combination, of an external receptacle adapted to contain a water-bath, and interior closed receptacle therein having a discharge for the anaesthetic, an air-tube connected to the interior closed receptacle, and an air-induction pipe leading through said water-bath and discharging into the air-tube, as and for the purpose set forth. 7th. The combination, with an external vessel, of the interior closed receptacle, the air-tube communicating with said receptacle, a slotted sheath fitted on said tube and carrying an exposed index or pointer adapted to traverse a disc on the external vessel, and an air-induction pipe connected to the air-tube, substantially as described. 8th. The combination of an external vessel adapted to contain a water-bath, of the interior closed receptacle having a discharge for the anaesthetics, the air-tube communicating with said closed receptacle, means for regulating the escape of air from said tube into the external vessel, an air-induction pipe leading through the water-bath and discharging into the air-tube, and an air-forcing device connected to the air-induction pipe, as and for the purpose described. 9th. The combination, with an external vessel of the interior closed receptacle adapted to contain a liquid narcotic, a discharging pipe C in said receptacle and terminating in a nozzle, the air-tube having the pendant perforated pipe extending into the closed receptacle, the air-induction pipe, and a filling tube leading into the bath, substantially as described. 10th. An apparatus for generating and applying anaesthetic vapours, consisting of an external vessel the interior narcotic receptacle provided with an outlet for the charged anaesthetic vapour which is delivered into the external vessel, an air-pipe leading into the closed narcotic vessel and provided with a discharge port is arranged to deliver counter currents of air into the external vessel, an inlet pipe coupled to the aforesaid air-pipe, and a mouth or face place communicating with the chamber of the external vessel to receive therefrom attenuated anaesthetic vapour, substan-

tially as and for the purpose described. 11th. In an apparatus for generating anaesthetics, the combination with an exterior vessel and a closed narcotic receptacle within the same, of the slotted air-tube J having an adjustable slotted sheath thereon to regulate the volume of air that passes from the tube J into the exterior vessel, the depending pipe B connected to said air-tube J and having the perforations E, F for supplying the currents of air to the narcotic liquid above and below the same, a discharge pipe C from said narcotic receptacle and having a nozzle arranged to discharge the narcotized vapour in the path of the current of air issuing from the tube J and the sheath, and an air-induction pipe connected to the air-tube J, substantially as described.

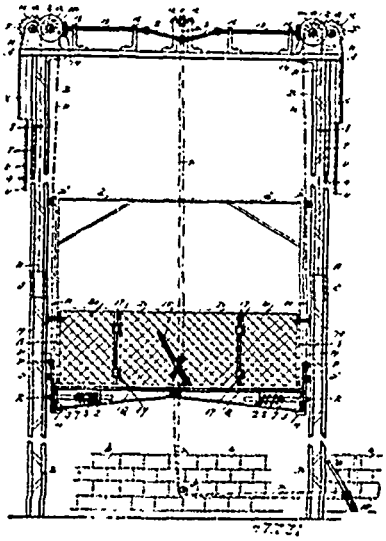
No. 47,730. Solution for Separating Sulphur &c., from Distilled Petroleum. (*Solution pour séparer le soufre, etc., du pétrole distillé.*)

Olof Johnson and Ross Thompson, both of Port Arthur, Ontario, Canada, 15th December, 1894; 6 years.

Claim.—The process of purifying petroleum, commonly known as coal oil, after it has been distilled or after it has been distilled and refined, so as to remove the sulphur or its products from the oil and to remove the sulphurous smell and smoke when burnt, by mixing with the oil a solution of lye, water, ammonia and lime (the lime not being necessary in some oils) in the proportions and in the manner hereinbefore set forth and substantially as described.

No. 47,731. Automatic Fire Escape, &c.

(*Sauveteur automatique d'incendie, etc.*)

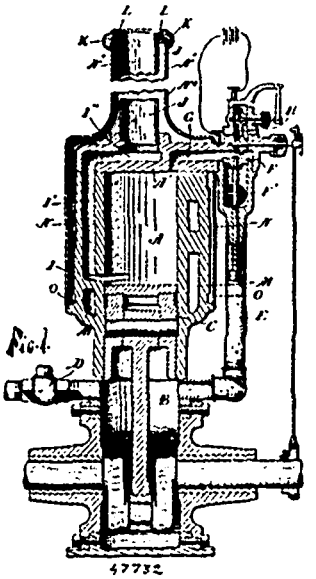


John Youngson, Hamilton, Ontario, Canada, 15th December, 1894; 6 years.

Claim.—1st. In an automatic fire escape and elevators, the combination of the cross-brace A, the rear part extending through the wall of building and supported on angle-iron columns B, and provided with shaft bearings *a*, shafts E and F, gear-wheels I and K, engaging with their pinions, the rigid governor casing M, the grooved cable pulleys G, with cables N, secured to cage D, substantially as described and for the purpose hereinbefore set forth. 2nd. The combination of the cross-brace A, having bearings *a*, and supported on columns B, the shafts E and F, revolving with their gear-wheels and pinions in said bearings, the governor casing M, the cable pulley with cables N, attached to upright connection P, of safety beam Q, attached to cage and provided with bolts R, in bearings 2, the spiral springs S, and the counter-balance weights O, attached to said cable, substantially as described and for the purpose hereinbefore set forth. 3rd. The braced columns B, secured to wall of building by braces C, the cross-brace A, secured to said columns, and provided with bearing *a*, having their shafts E and F, with gear-wheels and pinions, the governor casings M, the grooved pulley G, having one or more cables N, the counter-balance O, attached to end of said cable in combination with the cage D, attached to other end of cable by means of slotted connection P, having lower lip 4, engaging with safety beam Q of said cage, the bolt R, and the spring S, substantially as described and for the purpose hereinbefore set forth. 4th. The combination of the columns supporting the upper cross-brace having bearings for shafts E, with cable pulley and cable, the cage with guide rollers and counterbalance attached to ends of said cable, the governor casing M, rigid with said bearing, the brake-wheels H, revolving with said shafts, the lever W, near the ground with cable pulley attached and the lever having cross-arm, pivoted in the cage, the pulley Y, the double cable X, looped and passed over pulley 11, in bearing 12, and attached to central pin of double levers I, the horizontal rods 13, in bearings 16, and the concaved brake 14, substantially as described and for the purpose hereinbefore set forth. 5th. The combination of the air cylinders V, secured to upper and outer sides of columns B, and provided with pistons and rods U, having connections T at 9, with projections 8, in which the counter-balance O, engage the cage D, provided with safety beam Q, with its connections P, bolts R, and springs S, the cables N, the cross-brace having bearings, and secured on said columns, the shafts E, cable pulleys G, governor casings M, the brake-wheels H, the horizontal rods 13, having friction brakes 14, in bearings 16, the double levers Z, the cable pulley H, cables X, bearings 12, lever 15, pulley Y, and lever W, substantially as described and for the purpose hereinbefore set forth. 6th. The combination of the cage D, having braced upper extension *d*, with braced projection, provided with hinged doors having bowed projections 18, to engage with adaptable projections 19, attached to vertical columns at suitable positions to accomplish the closing of said gates, substantially as described and for the purpose hereinbefore set forth. 7th. The combination with the cage D, having hinged doors, of the safety beam Q, secured to said cage, and provided with bearings 2 and 3, for horizontal bolt R, having pin 7, and spring S, and the cable connection P, having vertical slot 5, and under lip 5, substantially as described and for the purpose hereinbefore set forth. 8th. The lever W, pivoted to the lower part of wall and provided with cable pulley, the cable pulley Y, pivoted to wall, the cross-arm lever 15, pivoted in the cage D, the double cable X, the cable pulley 11 in bearings 12, said cable looped to the connecting pin of double levers, the rods 13 in bearings 16, the brakes 14, in combination with the brake-wheels H, on shafts E, of upper cross-brace A, substantially as described and for the purpose hereinbefore set forth. 9th. The combination of the vertical columns B, and the air cushion cylinders V, having piston rods U, with vertical connection T, having upper projections 8, to engage with counter-balance O, attached to cables N, of pulley G, substantially as described and for the purpose hereinbefore set forth.

No. 47,732. Combustible Vapour Engine.

(*Machine à vapeur.*)



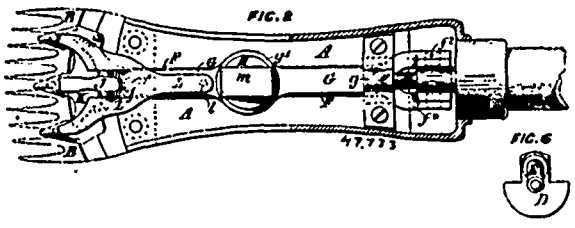
Ralph Benton Hain, Grand Rapids, Michigan, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. In a combustible vapour engine, a cylinder having an exhaust port at one end, and a fire-chamber having inlet check and igniter at the opposite end, and a piston traversing said cylinder and operating to open and close the exhaust port, substantially as described. 2nd. In a combustible vapour engine, a cylinder having an exhaust port, near one end, and a fire-chamber opening into the opposite end, a check valve and igniter opening into said fire-chamber, a compression chamber open at one end into said cylinder and having an inlet check, a piston traversing said cylinder, and operating to open and close said exhaust port, and also compressing the contents of said compression chamber, and a passage from said compression chamber to said check valve of the fire-chamber, substantially as described. 3rd. In a combustible vapour engine, in combination with the cylinder, and exhaust pipe, an air jacket inclosing said cylinder and pipes, having inlet openings at one end and outlet openings at the other end and adjacent to the end of the exhaust pipe, substantially as described. 4th. In a combustible vapour engine, a single acting cylinder having an exhaust port near one end, and a longitudinal port in its side, a piston traversing said cylinder and closing said exhaust port, a head closing the other end of said cylinder, having a radial port, an exhaust pipe in the axis of said

head, and an air jacket inclosing said cylinder and exhaust pipe, and having openings for air circulation, substantially as described. 5th. In a combustible vapour engine, a laterally extended fire-chamber, connected at its inner end to the cylinder and having at its outer end an inlet check and igniter, substantially as described 6th. In a combustible vapour engine, a cylinder having a lateral exhaust port and a vertical port, a compression chamber beneath said cylinder, having an inlet check, a piston opening and closing said exhaust port and compressing the charge in said chamber, a head closing the top of said cylinder having a radial port, and an axial exhaust pipe, an air jacket surrounding said cylinder and exhaust pipe, a laterally extended fire-chamber on said head, having at its outer end an inlet check, and an igniter, and pipe connecting said inlet check and the compression chamber, substantially as described.

No. 47,733. Machine Sheep-Shears.

(*Machine pour tondre les moutons.*)



Walter Maplesden Noakes and Edward Joseph Clarkson, both of Sydney, New South Wales, 15th December, 1894; 6 years.

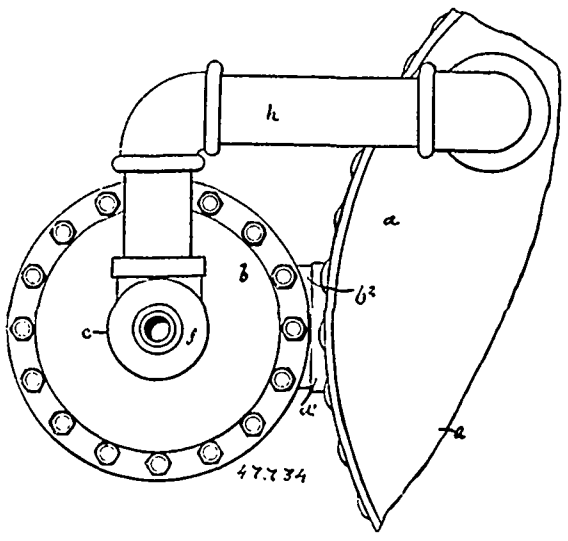
Claim.—1st. In machine sheep-shears, the combination, with a lever that is pivoted, or the fulcrum of which is at the forward end (while its rear end is vibrated in any suitable manner) with an overlying lever, the rear end of which is loosely pivoted to the lower lever, while its fulcrum is at or near its centre, and its forward end in direct connection with the cutter as herein specified. 2nd. In machine sheep-shears, the combination, with a lever that is pivoted, or the fulcrum of which is at the forward end (while its rear end is vibrated in any suitable manner) with an overlying lever, the rear end of which is loosely pivoted to the lower lever, while its fulcrum is at or near its centre, and its forward end in direct connection with the cutter, the fulcrum of the upper lever consisting of a sphere or universal joint which will permit of a modified movement of the upper lever in every lateral direction, whereby the tension upon the cutter shall be evenly distributed over all its teeth, as herein set forth. 3rd. In machine sheep-shears, in combination, a vibrating lever, a central tongue (whether the same be forked or not) that is loosely pivoted to the lever in the line of its longitudinal axis, the said tongue being provided with a rear projection that shall overlie the centre of the point of bifurcation of a fork that is loosely placed above the lever to which the tongue is pivoted, the whole being so disposed and arranged that the vibrating lever, the pivoted piece or tongue, and the loose overlying fork shall act together as one piece when tension is brought to bear upon the cutter, as herein specified. 4th. In machine sheep-shears, the combination, with a vibrating lever that is forked at the forward end, of a central loose piece or tongue that is centrally pivoted to the forward end of the lever, a loose fork that shall overlie the lever and underlie a projection at the rear end of the pivoted tongue, a central spherical fulcrum upon which the lever shall rock or vibrate, and a central or axial tension bolt, and a thumb screw that is manipulated from underneath the machine, whereby the adjustable tension is obtained to secure the necessary intimacy of contact between the comb and cutter, as herein set forth. 5th. In machine sheep-shears, lengthening the crank-pin and bending it until such elongation shall be in the same axial line as the motive power shaft of the machine, and staying such elongation in a fixed thrust bearing whereby the said crank-pin shall be rendered more rigid and less liable to work loose, as herein specified.

No. 47,734. Water Purifying Apparatus.

(*Appareil pour purifier l'eau.*)

Frank Gilbert, Montreal, Quebec, Canada, 15th December, 1894; 6 years.

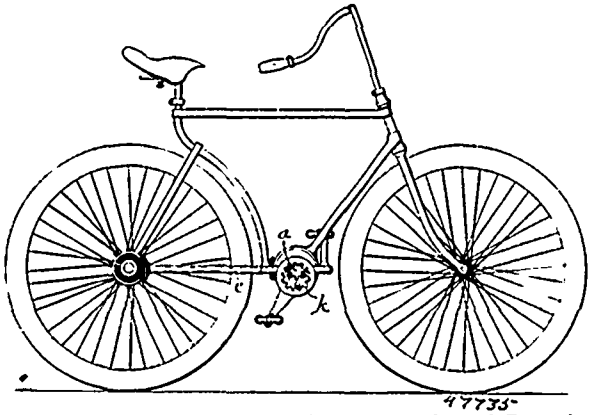
Claim.—1st. As a feed water purifier attachment to boilers, an external inclosing receptacle into which the feed water is injected, communicating with the steam space of the boiler, and containing a collection basin having a valve controlled discharge from the receptacle, for the purpose set forth. 2nd. As a feed water purifier attachment to boilers, an external inclosing receptacle, a valve controlled feed water nozzle carried by the upper side of same through which the feed water is injected, the said receptacle communicating with the steam space of the boiler and containing a collecting basin, having a valve controlled discharge from the receptacle, for the purpose set forth. 3rd. As a feed water purifier attachment to boilers, a receptacle having lower tubular neck portion to effect communication with the steam space of the boiler through an opening therein, the collecting basin arranged within such receptacle and having tubular discharging or neck portion passing through an opening in the neck portion of the receptacle with a suitable controlling valve, the upper half of said receptacle having an upward extension or dome, and a suitable valve controlled feed water nozzle carried by same for the purpose set forth. 4th. As a feed



water purifier attachment to boilers, a receptacle having lower tubular neck portion to effect communication with the steam space of the boiler through an opening therein above the water line, the collecting basin arranged within such receptacle and having tubular discharging steam or neck portion passing through an opening in the neck portion of the receptacle, with a suitable controlling valve, the upper half of said receptacle having an upward extension or dome, a suitable valve controlled feed water nozzle carried by same and a tubular connection between said dome and the steam space of the boiler, for the purpose set forth. 5th. As a feed water purifier attachment to boilers, an inclosing casing communicating with the steam space of the boiler, a collecting basin within such inclosing casing and having a valve controlled discharge therefrom, and a valve-controlled feed water nozzle carried by said casing above the collecting basing, for the purpose set forth.

No. 47,735. Driving Gear for Bicycles, Etc.

(*Mécanisme conducteur pour bicycles, etc.*)

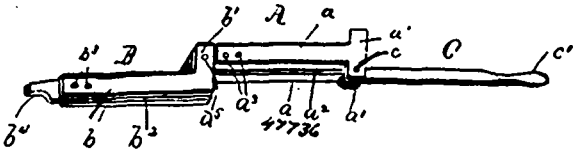


James William Duncan, Montreal, Quebec, Canada, 15th December, 1894; 6 years.

Claim.—1st. In driving gear for bicycles and the like, the combination with the supporting frame and axle or part to be rotated, of a bearing projecting from said frame for the crank or initial operating part which is mounted to revolve thereon and through which bearing said axle passes, and intermediate gear connections between said crank or initial operating part and said axle, for the purpose set forth. 2nd. In a driving gear for bicycles and the like, the combination with the supporting frame and axle or part to be rotated, of a bearing projecting from said frame, the crank or other initial operating part mounted to revolve thereon, its hub portion being formed with a central space concentric with, but larger in diameter than said bearing, a pinion carried by said axle, and gear-teeth on the inside of the wall of said central space adapted to intermesh with said pinion, for the purpose set forth. 3rd. In driving gear, the

combination with a supporting frame, and part to be rotated, of a bearing projecting from said frame, an initial rotary operating part mounted to revolve on said bearing, and intermediate gear connections between said initial rotary operating part and the part to be rotated, for the purpose set forth. 4th. The rotary operating part or hub comprising the two sides perforated to fit and be rotated about a bearing therefor, an intermediate ring or annulus between such side pieces and having gear-teeth on its inside face adapted to intermesh with a pinion carried by a part to be rotated. 5th. The rotary operating part or hub comprising the two side pieces perforated to fit and be rotated about a bearing therefor, an intermediate ring or annulus secured between such side pieces having gear-teeth on its inside face adapted to intermesh with a pinion carried by a part to be rotated and means such as an arm whereby such hub can be rotated. 6th. The combination of axle a, suitably supported, bearing f, through which such axle passes eccentrically, pinion h rigidly mounted on said axle, said bearing cut away as at f^1, to accommodate same, the hub of a crank composed of side pieces g^3, g^4 centrally perforated and mounted to revolve on said bearing and ring piece g^2 the latter having gear-teeth on its inside face to intermesh with said pinion, and means for retaining the parts in place, for the purpose set forth.

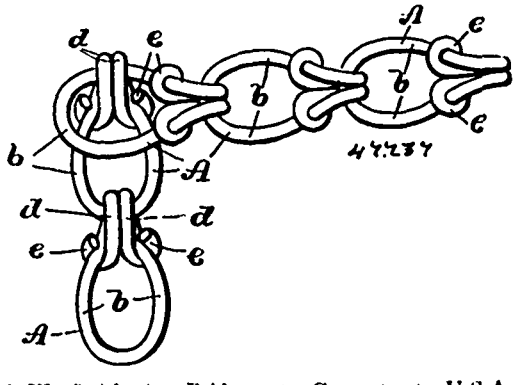
No. 47,736. Moustache Curler. (*Fer à friser la moustache.*)



William Storrs Cooper, Newport, Rhode Island, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. A curling device, comprising a central member composed of side plates and an interposed spring plate, a second member pivoted at one end of the central member and composed also of side plates, and interposed spring plate secured at one end to said side plates, and bearing by its opposite end against one end of the central member, and a third member pivotedly secured to the opposite end of the central member to fold against the same, and receiving the pressure of the spring of such central member, substantially as described. 2nd. A curling device comprising a central member composed of side plates, having T-heads at one end and a spring plate secured between the sides plates at the end opposite the T-heads and having its free end between such heads, the secured end having a cam formation beyond its pivot, a second member pivoted to the central member at the end opposite to the T-heads and composed of side plates, and an interposed spring secured to the free ends of the side plates and bearing against the cam formation on the central spring member, the opposite end of the said spring of such said second member being projected to enter between the T-heads of the central member at one side thereof, and a third member consisting of a lever pivoted to the T-heads at one side thereof, and having a cam formation at the pivoted end normally pressed against by the spring of the central member, the opposite end of the lever projecting beyond the two remaining members of the device and forming a handle for the manipulation of the device, substantially as described.

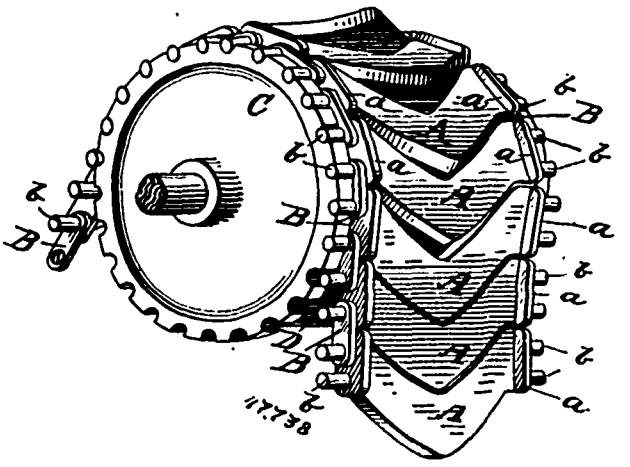
No. 47,737. Wire Chain. (*Chaîne en fil de fer.*)



Friend W. Smith, jr., Bridgeport, Connecticut, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. A link for chains consisting of a wire bent to form a loop after which the two ends of the wire converge and are bent around to form an eye, the ends being passed back into the loop between the side wires at the point where the loop and eye merge into each other, and thence outside of the loop around the side wires in the form of hooks which lie in the same plane with each other, substantially as set forth. 2nd. A chain composed of wire links each of which links consists of a single wire, having a loop formed therein and an eye, the ends of the wire constituting the loop and eye inserted into the loop between the side wires at a point where the loop and eye merge into each other, and thence outside the loop around the side wires and back to the portion of the wires passing into the loop, and two hooks lying in the same plane with each other, substantially as set forth. 3rd. The herein described method of forming a wire chain link consisting in bending the wire to form a loop and eye, and passing the ends of the wire into the loop between the side wires, and finally bending the extreme ends thereof around the side wires, from the inside of the loop outward in the same plane with each other, substantially as described.

No. 47,738. Lag-Chain. (*Chaîne traînante.*)

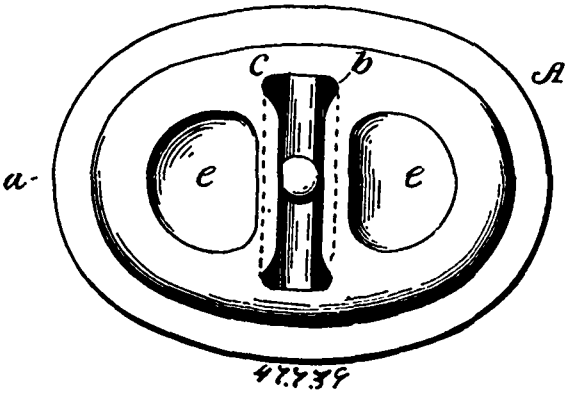


Valerius D. Anderson, Cleveland, Ohio, U.S.A., 15th December, 1894; 6 years.

Claim. 1st. A press chain or endless band, consisting of a series of lags A of substantially V-form, flexibly connected one to another. 2nd. The herein described chain or belt for presses, consisting of a series of lags or plates A of substantially V-form, and connecting-links B applied to their ends, substantially as shown and described. 3rd. A chain or pressure band for presses, consisting of a series of lags A of substantially V-form, provided with upturned ends or flanges, and connected at their ends by links, substantially as shown and described. 4th. In a press, a chain or belt consisting of a series of lags or sections of substantially V-form flexibly connected, the forward end of one section extending into the rear side or end of the next preceding to a considerable distance beyond the pivots connecting the two.

No. 47,739. Cover for Man-holes, etc.

(*Porte de trou d'homme, etc.*)

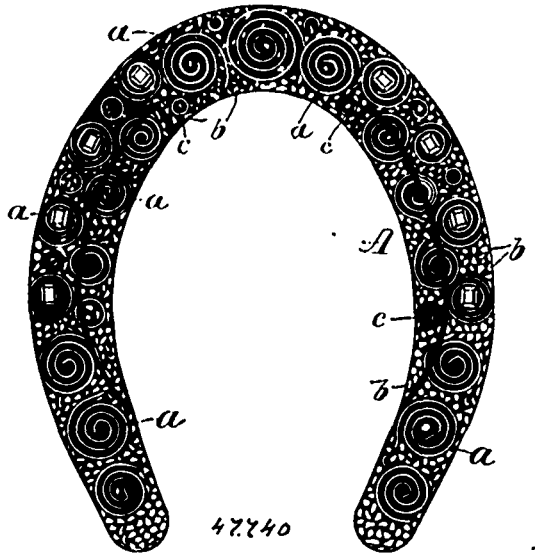


James P. Roe, Pottstown, Pennsylvania, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. A plate or cover A, for the man-holes, hand-holes or sludge-holes of steam boilers, tanks and for other purposes, consisting of a wrought-iron or steel sheet or plate pressed or stamped to shape and formed with a recess b in its outer face adapted to receive and hold a bolt in a plane at right angles to said plate or cover, substantially as described. 2nd. In a plate or cover A, for the man-holes, hand-holes, and sludge-holes of steam boilers, tanks and the like, formed of wrought-iron or steel pressed or stamped the desired shape and having a dove-tailed recess b stamped or pressed therein, and a bolt having a tapering head p adapted to fit within said recess, substantially as described. 3rd. In a plate or cover A, for the man-

holes, hand-holes and sludge-holes of steam boilers, tanks and the like, formed of wrought-iron or steel pressed or stamped into shape and having a recess *b* stamped or pressed therein, a bolt having a head adapted to fit within said recess, and means for preventing lateral movement of said bolt in said recess, substantially as described. 4th. In a plate or cover A, for the man-holes, hand holes and sludge-holes of steam boilers, tanks and the like, formed of wrought-iron or steel pressed or stamped the desired shape, having a recess *b* stamped or pressed therein, and formed with a projection *f* in its bottom, and a bolt having a head adapted to fit within said recess and formed with a concavity *n* to fit over said projection, substantially as described. 5th. In a plate or cover A, for the man-holes, hand-holes and sludge-holes of steam boilers, tanks and other similar vessels or receptacles, of wrought-iron or steel pressed or stamped in the desired shape and having a recess *b* stamped or pressed in said plate, a bolt having a head adapted to enter said recess, and means for securing said bolt rigidly in said recess in a plane at right angles to the plate, substantially as described. 6th. A yoke or bridge C for man-holes, hand-holes, sludge-holes and the like, consisting of a wrought-iron or steel sheet or plate stamped, pressed or rolled the desired shape and with side flanges D, substantially as described. 7th. A yoke or bridge C for man-holes, hand-holes, sludge-holes and the like, consisting of a wrought-iron or steel sheet or plate, stamped, pressed or rolled the desired shape and with side flanges D, and with lateral flanges H, substantially as described. 8th. A yoke or bridge C for man-holes, hand-holes, sludge-holes and the like, consisting of a wrought-iron or steel sheet or plate, stamped, pressed or rolled into a channel form and having a bar K connecting the edges of said channel, substantially as described.

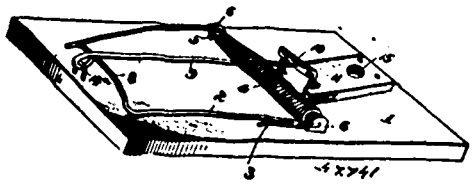
No. 47,740. Horse-shoe. (*Fer à cheval.*)



Charles Coburn Jerome, Chicago, Illinois, U.S.A., 15th December, 1894; 6 years.

Claim.—1st. A horse-shoe having a wearing face of finely divided material harder than the material of which the body of the shoe is composed, embedded in said body, substantially as set forth. 2nd. A horse-shoe having its body made of aluminium and a wearing face composed of curved strips or tubes embedded in said body, substantially as set forth. 3rd. A horse-shoe having a wearing face of material harder than the material of which the body of the shoe is composed, said wearing face being composed of tubes or spirals of hardened material pressed into the under face of said body of the shoe, substantially as set forth. 4th. A horse-shoe having a wearing face of material harder than the material of which the body of the shoe is composed, said wearing face being composed of curved pieces of hardened material and finely divided particles of hardened material, pressed into the under face of the body of the said shoe, substantially as set forth. 5th. A horse-shoe having a hardened wearing face composed of a series of steel spirals or strips pressed into the body of the shoe and constituting a binding as well as a wearing face therefor, substantially as set forth. 6th. The herein described process of manufacturing horse-shoes of aluminium consisting in first giving the metal the general form desired for a horse-shoe and then subjecting the material to which the shoe is made to a pressure sufficient to consolidate and force the grains of metal together whereby it is made to stand the punishment required, substantially as set forth. 7th. The herein described process of manufacturing horse-shoes of aluminium consisting in first giving the metal the general form desired for a horse-shoe and then subjecting the material of which the shoe is made to a pressure sufficient to consolidate and force the grains of metal together, and pressing hard wearing metal into the under face of the horse-shoe, substantially as set forth. 8th. The herein described process of the manufacture of horse-shoes of aluminium consisting in first giving the metal the general form desired for a horse shoe and then subjecting the material of which the shoe is made to a pressure sufficient to consolidate and force the grains of metal together, and pressing divided steel into the under face of the aluminium, substantially as set forth.

No. 47,741. Animal Trap. (*Piège.*)

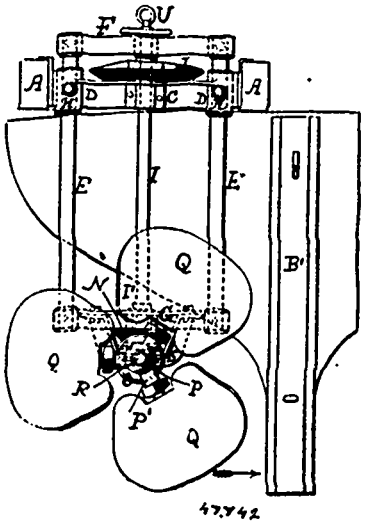


William Chauncey Hooker, Abingdon, Illinois, U.S.A., 17th December, 1894; 6 years.

Claim.—1st. A trap comprising a base, a spring-actuated jaw constructed of a single piece of wire coiled to form a transverse spring and extended from one end of the latter and shaped into a loop terminating at the opposite side of the coil and continued to form a transverse portion arranged within the coil, bearings receiving the ends of the transverse portion, a locking-bar and a trigger for setting the jaw, substantially as described. 2nd. A trap, comprising a base, a spring-actuated jaw constructed of a single piece of wire coiled to form a transverse spring and extended from one end of the latter and shaped into a loop terminating at the opposite side of the coil and continued to form a transverse portion arranged within the coil, one end of the wire being extended rearwardly to form an arm and the other end being extended transversely, a locking-bar, and a trigger for setting the jaw, substantially as described. 3rd. A trap, comprising a spring-actuated jaw, a locking-bar, a trigger provided at its rear end with a catch, and an eye constructed of a single piece of sheet metal doubled above the trigger and bent rearward and having its ends secured to the upper and lower faces of the trigger, a pintle arranged in the eye and hinging the trigger to the base, and a locking-bar, substantially as described.

No. 47,742. Apparatus for Propelling Boats, Etc.

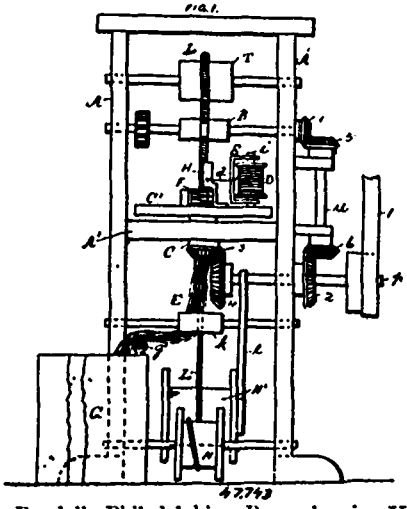
(*Appareil de propulsion des bateaux.*)



Henry Barcroft, The Glen, Newry, Armagh, Ireland, 17th December, 1894; 6 years.

Claim.—1st. In apparatus for propelling boats and other navigable vessels by means of propellers carried by a frame overhanging the stern of the boat, constructing such apparatus to operate with a single set of propeller blades carried by a frame constructed and arranged so as to be readily removed or transferred from one vessel to another, substantially as herein described with reference to the accompanying drawings. 2nd. In apparatus for propelling boats and other navigable vessels by means of propellers carried by a vertical frame overhanging the stern of the boat, arranging the vertical frame to be carried by overhanging bearers situated on one side of the rudder of the boat, and carrying a single set of propeller blades driven by a vertical shaft carried by the said frame and receiving motion from a suitable motor geared with its upper end, substantially as described.

No. 47,743. Machine for Covering Wire with Loose Fibre. (*Machine pour couvrir les fils de fer avec des tissus.*)

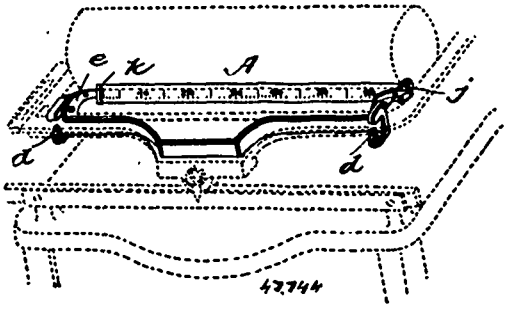


Franklin S. Randall, Philadelphia, Pennsylvania, U.S.A., 17th December, 1894; 6 years.

Claim.—1st. In a machine for covering wire with strips of loose fibre, the combination, with a pair of drag-rolls B, and reels N, N^1, of a revolving plate provided with a comb or brush for winding the surface fibres around the wire, when constructed to operate as set forth. 2nd. In a machine for covering wire with strips of loose fibre, the combination, with a pair of drag-rolls B, and reels N, N^1, mandrel having a tapering bore, and a revolving plate provided with a comb, a winding reel, as set forth.

No. 47,744. Type-Writer Attachment.

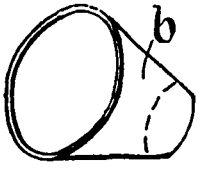
(*Attache pour clavigraphe.*)



Newton Walker Hartwell, Louisville, Kentucky, U.S.A., 17th December, 1894; 6 years.

Claim.—An attachment for type-writing machines composed of brackets adjustably secured to the frame of the machine, and a refracting and reflecting prismoid supported by said brackets so that the writing or letter impression is made visible to the operator in the manner and for the purposes set forth.

No. 47,745. Cigar Tip. (*Porte-cigare.*)



Alexander Macpherson, Montreal, Quebec, Canada, 17th December, 1894; 6 years.

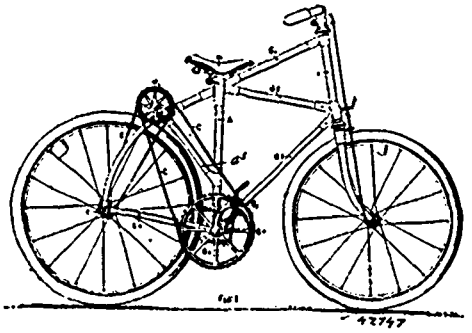
Claim.—1st. A mouth-piece or covering, for the end of a cigar consisting of a section of thin rubber tubing encircling the cigar at the smoking end thereof, for the purposes set forth. 2nd. A mouth-piece or covering for the end of a cigar consisting of a section of a seamless thin rubber tubing encircling the cigar at the smoking end thereof, for the purpose set forth. 3rd. A mouth-piece or covering for the end of a cigar consisting of a tubular truncated cone of thin rubber. 4th. A mouth-piece or covering for the end of a cigar consisting of a seamless and flexible tubular truncated cone of thin rubber adapted to encircle the cigar at the smoking end thereof, for the purpose set forth.

No. 47,746. Process of Making Porous Sulphate of Alumina. (*Procédé pour faire du sulfate poreux d'alumine.*)

John Enequist, Brooklyn, New York, U.S.A., 17th December, 1894; 6 years.

Claim.—The process of making porous or spongy sulphate of alumina, which consists in pouring a hot concentrated solution of sulphate of alumina on to a surface of metal, which will thereby evolve hydrogen, such as zinc or aluminum, allowing the sulphate of alumina to cool and solidify while in contact with such metallic surface, whereby the hydrogen given off will pass through the material and make it porous as described.

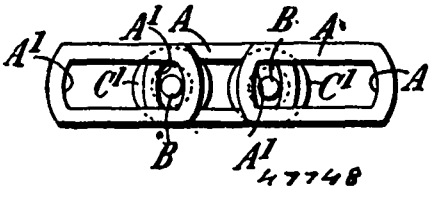
No. 47,747. Velocipede. (*Vélocipède.*)



George Brongham Hubert Austin, Bella Vista, Camberwell, Victoria, Australia, 17th December, 1894; 6 years.

Claim.—1st. In velocipedes, a seat arranged as nearly as possible in a vertical line above the crank-axle, which latter is supported in bearings at about the same level as the axle of the hinder wheel, substantially as and for the purposes herein described. 2nd. In velocipedes, the use of sprocket-wheels on the crank-axle in gear with other sprocket-wheels of smaller diameter set on a considerably higher level, and connected by chain gearing with other smaller sprocket-wheels on the axle of the hinder wheel, substantially as and for the purposes herein described. 3rd. In velocipedes, the arrangement of framing herein described, the whole being constructed and arranged, substantially as and for the purposes herein described. 4th. In velocipedes, the arrangement of brake herein described, consisting of a roller mounted upon a horizontally sliding rod, and operated upon by a foot lever against the resistance of a spiral spring, substantially as and for the purpose herein described. 5th. In velocipedes, the use of forwardly curved cranks (such as B;2), substantially as and for the purposes herein described. 6th. In velocipedes, the use of the adjustable ball-bearing barrel herein described, for regulating the tension of the intermediate sprocket-gear and preventing any sudden jerking of the chains, substantially as herein described.

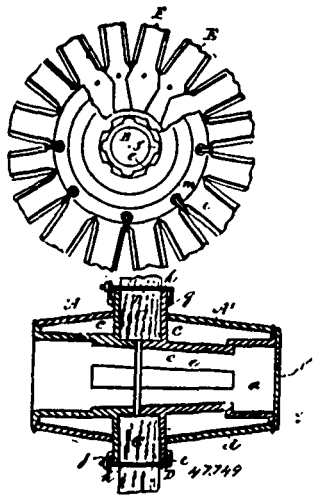
No. 47,748. Gear-chain for Velocipedes and other Machines. (*Chaîne d'engrenage pour vélocipèdes, etc.*)



J. B. Dunlop, sr., and J. B. Dunlop, jr., Blackrock, Dublin, Ireland, 17th December, 1894; 6 years.

Claim.—1st. In a gear-chain, links having at either or both ends thereof extended bearing surfaces for the pins, substantially as and for the purpose specified. 2nd. A gear-chain constructed of links having extended or broad bearing surfaces at one or both ends thereof, in combination with pins secured in washers for connecting said links and adapted to roll or move on said bearing surfaces, substantially as and for the purpose specified. 3rd. A gear-chain constructed, substantially as described, with reference to either or any of the modifications shown in the accompanying drawing, for the purposes specified.

No. 47,749. Vehicle-wheel. (*Roue de voiture.*)



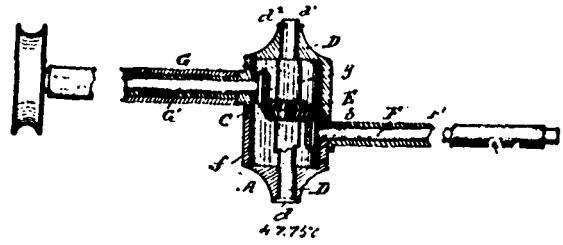
Jesse Roseboom, Cincinnati, Ohio, U.S.A., 17th December, 1894; 6 years.

Claim.—1st. In a wheel-hub, the combination, with two sections having the flanges c provided with depressions or seats on their outer sides, of the connecting links D, respectively comprising the bolt *h*, having one of its ends threaded and having an angular branch at its opposite end provided with a knob or enlargement for engaging the depressions or seats of the flange, the arm loosely mounted upon the threaded end of the bolt and also having a knob or enlargement, and a nut securing said arm upon the bolt, substantially as and for the purpose set forth. 2nd. In a hub of a vehicle wheel, the combination of sections A, A¹, respectively comprising the sleeve *a*, the end wall *b*, and the peripheral flange *c* formed in one piece, and the covering sleeve or collar *d*, detachably connected to the end wall *b*, and a suitable means for connecting the said sections together, substantially as specified. 3rd. In a hub of a vehicle-wheel, the combination with the sections A, A¹, respectively comprising the sleeve *a*, the end wall *b*, the peripheral flange c having the depressions or seats upon its outer sides, and the covering sleeve or collar *d*, detachably connected to the end wall *b*, of the links for connecting the said sections, comprising the bolt having the angular branch adapted to engage the seat or depression in the flange of one section, the arm mounted on the bolt and adapted to engage the seat or depression in the flange of the other section, and a suitable means for securing said arm in position, substantially as specified. 4th. In a hub of a vehicle-wheel, the combination, with the sections having the sleeve *a*, provided with longitudinal ribs *e*, of the box adapted to be arranged within the said sections and having longitudinal ribs *f* upon its exterior adapted to rest between the ribs of the sections, substantially as and for the purpose set forth. 5th. In a vehicle-wheel, the combination with a hub, of the spokes E, F arranged alternately with respect to each other, the spokes E, being provided in their transverse sides at or adjacent to their inner ends with recesses, and the spokes F, having enlargements upon their transverse sides adapted to rest in the recesses of the spokes E, whereby said spokes E, F, will serve mutually to prevent the withdrawl or displacement of each other in a radial direction, substantially as specified. 6th. In a vehicle-wheel, the combination with a hub comprising two clamping plates, and a suitable means for connecting said plates together, of the spokes E, F, placed between the plates of the hub and arranged alternately with respect to each other, the spokes E, being provided in their transverse sides, at or adjacent to their inner ends with recesses and the spokes F, having enlargements upon their transverse sides adapted to rest in the recesses of the spokes E, substantially as and for the purpose set forth. 7th. In a vehicle-wheel, the combination of a hub, the spokes E, having recesses in their transverse sides, so cut as to form the shoulders O, and the spokes F, arranged alternately with respect to the spokes E, and having enlargements upon their transverse sides, the said enlargements forming shoulders adapted to engage the shoulders O, of the spokes E, all substantially as and for the purpose set forth. 8th. In a vehicle-wheel, the combination with the sections A, A¹, respectively comprising the sleeve *a*, the end wall *b*, the peripheral flange *c*, and a suitable means for connecting said sections together, of the covering sleeve or collar *d*, detachably connected to the end of wall *b*, and having a closed end d^1, substantially as specified.

No. 47,750. Universal Joint. (*Joint universel.*)

Charles M. Stone, Nashville, Tennessee, U.S.A., 17th December, 1894; 6 years.

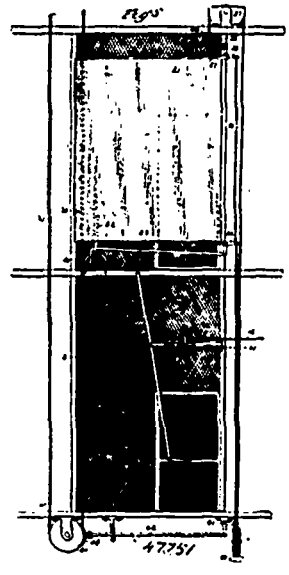
Claim.—1st. In combination, the two cylindrical sections provided with solid outer ends, the rods connecting said sections and permitting rotary movement thereof, the hollow arms carried by the sections, the shafts journalled in said arms, the bevel gear-wheel mounted upon said shafts, and the double-faced bevel gear-wheel mounted upon the rod and engaging the gears carried by the shafts, substantially as described. 2nd. In combination with the two



cylindrical sections having their meeting edges overlapping each other and provided with solid outer ends, a rod connecting said ends and permitting the rotation of said sections relative to each other, a double-faced bevelled gear loosely mounted upon said rod, a hollow arm carried by each section, with a shaft journalled in each arm, and a bevel gear secured to each of said shafts and engaging the double gear, substantially as described.

No. 47,751. Device for Operating Elevator Doors.

(*Appareil pour actionner les portes d'élévateurs.*)

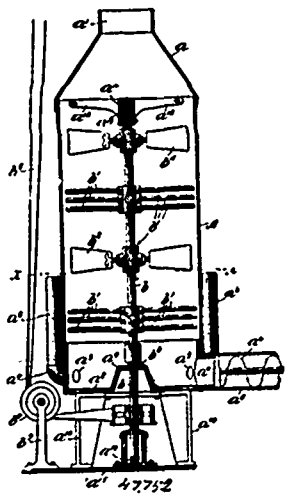


Harold Rowntree, Chicago, Illinois, U.S.A., 18th December, 1894; 6 years.

Claim.—1st. The combination of a cylinder and piston actuated by fluid pressure, an elevator well door, connections between said piston and door, a movable contact-piece carried by the car, devices operated from the car to control its movements, and connections from said devices to said movable contact-piece, substantially as described. 2nd. The combination of a cylinder and piston actuated by fluid pressure, an elevator well door, connections between said piston and door, said connections consisting of a slotted tripping piece attached to the door, and a lever pivoted at one end to said tripping piece, and at the other to a fixed support in the elevator well, connected at an intermediate point to the piston-rod, a movable contact-piece carried by the car, devices operated from the car to control its movement, and connections from said devices to said movable contact-piece, substantially as described. 3rd. The combination of a cylinder and piston actuated by fluid pressure, an elevator well door, connections between said piston and door, a movable contact-piece carried by the car, devices operated from the car to control its movements, connections from said devices to said movable contact-piece, said connections comprising a cam operated by the hand-lever which controls the movement of the car, and a rod connected to said movable contact-piece and held in contact with said cam face by spring pressure, substantially as described. 4th. The combination of a cylinder and piston actuated by fluid pressure, an elevator well door, connections between said piston and door, a valve controlling the admission and exhaust of fluid to and from said cylinder, and devices connected to said valve and piston, and adapted to partially close the valve before the piston reaches the end of its stroke, substantially as described. 5th. The combination of a cylinder and piston actuated by fluid pressure, an elevator well door, connections between said piston and door, a valve controlling the admission and exhaust of fluid to and from the said cylinder, a slide having bevel cam-faces connected to the piston-

rod, a T-shaped lever connected to said valve provided with contact-points, adapted to co-operate with the said bevelled cam-faces and partially close said valve as the piston nears the end of its stroke, substantially as specified. 6th. The combination of a cylinder and piston actuated by fluid pressure, an elevator well door, connections between said piston and door, a rotary valve controlling the admission and exhaust of fluid to and from said cylinder provided with a laterally projecting arm, and impelled in one direction by spring pressure, and in the other by a movable contact-piece upon the car, a T-shaped lever having its middle arm forked and connected to said laterally projecting valve arm, adjustable contacts at the extremities of the side arms of said inverted T-lever and the slide connected to the piston-rod having bevelled cam-faces co-acting with said adjustable contacts, substantially as described. 7th. The combination with landing door of an elevator well, of devices connected thereto, and adapted to open and close it, a movable contact-piece carried by the car, adapted to put said door operating devices into action, handling gear carried by the car, and connected to said movable contact-piece, a cable passing over sheaves at the top and bottom of the elevator well, and running with the car and having one or both of its ends connected with the movable contact-piece upon the car, and connections between the control device governing the movement of the car and the lower sheave to slacken or tighten said cable, whereby said contact-piece is operated by the joint action of said handling gear on the car and said connections to the control devices, substantially as described. 8th. The combination with an elevator well door of a cylinder and piston actuated by a fluid pressure, connections between said piston and door, devices operated from the car to control the movements of said piston, and means adapted to automatically confine a portion of the fluid contained in said cylinder as the door near the end of its movement, substantially as described.

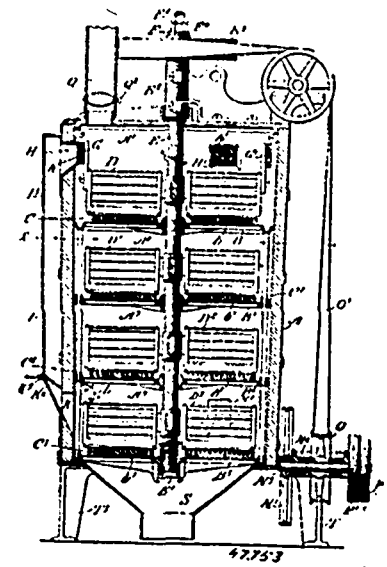
No. 47,752. Apparatus for Blending Powdered Materials. (*Appareil pour mélanger des matières pulverisées.*)



John Slingluff Detwiler, Philadelphia, Pennsylvania, U.S.A., 18th December, 1894; 6 years.

Claim.—1st. An apparatus for blending powdered materials, comprising a chamber having a feed and means for producing a current of air in said chamber to segregate and blend materials together therein, substantially as and for the purposes set forth. 2nd. An apparatus for blending powdered materials comprising a chamber having at one portion thereof a force feed, air inlets, and means for producing a current of air for segregating and blending materials together therein, substantially as and for the purposes set forth. 3rd. An apparatus for blending powdered materials, comprising a drum having at one portion thereof a force feed and a peripheral series of air inlets, and means for producing a current of air for segregating and blending together materials therein, substantially as and for the purposes set forth. 4th. An apparatus for blending powdered materials, comprising a drum having at one portion thereof a force feed and a peripheral series of air inlets, a central shaft carrying oblique fan blades for producing a current to the materials and air and beaters for disintegrating and blending together said materials, substantially as and for the purposes set forth. 5th. An apparatus for blending powdered materials, comprising a drum provided with a rotatable shaft having fingers and fans connected therewith, means for producing an air current in said drum, a conduit for the introduction of materials into said drum, a conveyor connected with said drum, pipe connections, a separating and settling appliance provided with a conveyor and with a controlled outlet and screened air inlets in the walls thereof, substantially as and for the purposes set forth. 6th. An apparatus for blending powdered materials, comprising a chamber having a feed, air inlets, means for producing a current of air for segregating and blending materials together in said chamber, a separating and settling appliance having a rotatable conveyor and controlled material and air outlets, substantially as and for the purposes set forth.

No. 47,753. Apparatus for Treating Powdered Materials. (*Appareil pour mélanger les matières pulverisées.*)



John Slingluff Detwiler, Philadelphia, Pennsylvania, U.S.A., 18th December, 1894; 6 years.

Claim.—1st. An apparatus for treating powdered materials, comprising a shell divided into a series of chambers having perforated bottoms, a rotatable shaft provided with frames having brushes adapted to sweep over the perforated bottoms, outlets in the wall of one of said chambers leading to separating chambers having valves, an air or gas inlet in one part of said shell, a blowing engine connected therewith, inlets connected with another part of said shell and provided with regulating valves, and means for actuating said shaft and blowing engine, substantially as and for the purposes set forth. 2nd. An apparatus for treating powdered materials, comprising a shell divided into a series of chambers having perforated bottoms and each provided with rotatable agitating and sweeping devices mounted on a vertical shaft, inlets and outlets in said shell, a discharge hopper in the bottom thereof, separating chambers connected with said shell and provided with automatic valves, and actuating means for the movable parts of the machine, substantially as and for the purposes set forth. 3rd. An apparatus for treating powdered materials, comprising a shell divided into a series of chambers having spider frame bottoms respectively covered with wire gauze of different degrees of fineness, agitating and brushing devices mounted on an adjustable shaft, inlets in the top with regulating valves for the admission of materials into said shell, an air or gas blast in the lower part, an outlet hopper in the bottom, separating chambers arranged around said shell and each connected therewith and provided with valves for automatically controlling the discharge of material in mass from said separating chambers into the lower part of said shell, and means for actuating said shaft and controlling said air or gas blast, substantially as and for the purposes set forth.

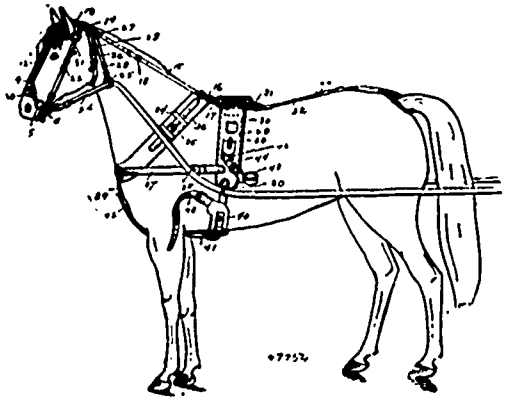
No. 47,754. Apparatus for Breaking Horses.

(*Appareil pour dompter les chevaux.*)

William H. Sanborn, Rutland, Vermont, U.S.A., 18th December, 1894; 6 years.

Claim.—1st. The combination, with a flexible bit having a central pressure button, of bridle-rigging having an over-draw check connected at its front end to the inner or check rings of the bit and connected at its rear end to a saddle, guide-loops having billets adjustably connected to the check in rear of the crown piece of the bridle, and reins connected respectively to the outer or rein-rings on the bit and passing through said guide loops, substantially as specified. 2nd. The combination, with a flexible bit having a central pressure button and terminal rein and check-rings, of bridle-rigging having an over-draw check connected at its front end to the check-rings and at its rear end to a saddle, swinging guide-loops, adjustable connections between said guide-loops and the over-draw check in rear of the crown piece of the bridle, a series of guides arranged at different elevations on the saddle, and reins attached to the rein-rings and extending through said loops and guides, whereby draft upon the reins is communicated directly to the rein-rings of the bit and also through the guide-loops, connections and over-draw check to the check-rings of the bit, substantially as specified. 3rd. The

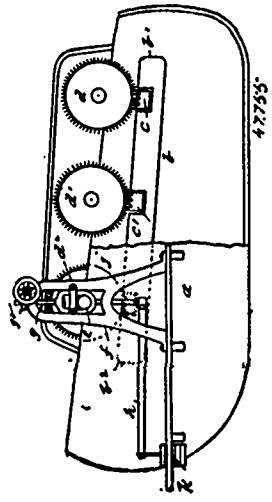
combination, with a bit having check and rein-rings and an intermediate pressure-button, of an over-draw check attached to the check-rings, a crown-piece having guides for the said check, means for securing the crown-piece in place, a saddle, connections between the check and the saddle, pendent loops connected to the check,



guides on the saddle, reins attached to the rein-rings and extending through said loops and guides, a collar, connections between the collar and the saddle, and an adjustable back-strap connected at its front end of the saddle, substantially as specified. 4th. A flexible bit having a rotatable pressure-button arranged with its axis transverse to the length of the bit, in combination with bridle-rigging including means for deflecting the central portion of the bit to bring said pressure-button in contact with the roof of the mouth, substantially as specified. 5th. The combination, with a flexible bit and means for deflecting the central portion thereof, of a rotatable ellipsoidal pressure-button mounted on the bit at an intermediate point, with its axis and major diameter transverse to the length of the bit, substantially as specified. 6th. The combination, with a flexible bit having members connected by an interposed link, and means for deflecting the inner ends of the members, of an elongated pressure button carried by said interposed link of the bit arranged with its axis at an inclination to the plane of the link, substantially as specified. 7th. The combination of a flexible four-ringed bit having opposite members and an interposed connecting link, a frame carried by said connecting link, and a pressure-button mounted rotatably in said frame with its axis at an inclination to the plane of the said link and its longer diameter transverse to the length of the bit, with means, connected to the rings of the bit, for causing the deflection of the inner ends on the members thereof, substantially as specified.

No. 47,755. Pulp Beating Engine.

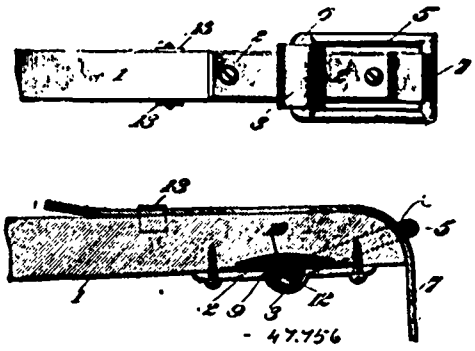
(*Cylindre broyeur de pulpe.*)



James Demaine Pickles, Buckland, Manchester, Connecticut, U.S.A., 1894; 6 years.

Claim.—In a pulp-beating engine, in combination with a vat, a transverse bed substantially flat along its upper surface and inclined upward from front to rear, a series of cutter beds arranged at different levels along the transverse bed, a plural number of beater rolls carrying knives or cutters co-operating with the knives on the respective cutter beds, and means for driving the beater rolls, all substantially as described.

No. 47,756. Trace Fastener. (*Attache de trait.*)



Elliot Saint Clair Andrus, Willard, New York, U.S.A., 18th December, 1894, 6 years.

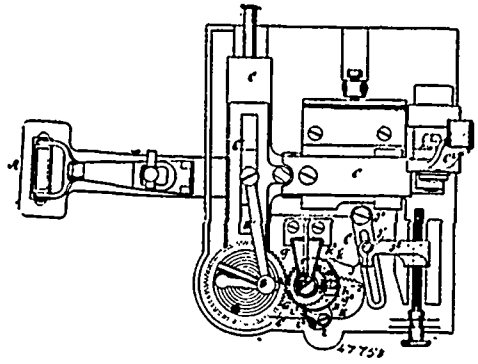
Claim.—The combination with a whiffletree, having a recess, of a spring located in the recess a plate provided with box and bearings secured to the whiffletree above the spring, and a fastening link having a tongued journal carried in the bearings of the plate, and located in proximity to the end of the whiffletree, substantially as and for the purpose specified.

No. 47,757. Process of Making a Substitute for Coffee. (*Procédé pour faire un substitut pour le café.*)

Rheinhardt Rahr, Manitowoc, Wisconsin, U.S.A., 18th December, 1894; 6 years.

Claim.—The herein described process of producing a substitute for coffee from barley malt, which consists in steeping the malt, separating the steeped malt from the water, then subjecting the malt to a low degree of heat, whereby the starch products are converted into maltose and then raising the temperature and continuing the treatment at the elevated temperature until the maltose is converted into caramel, and arresting the treatment at a point short of carbonization, substantially as described.

No. 47,758. Sewing Machine. (*Machine à coudre.*)

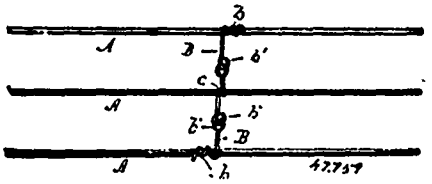


James T. Hogan, Jersey City, New Jersey, U.S.A., 18th December, 1894; 6 years.

Claim.—1st. In a sewing machine, the combination of a feed-wheel, and a feed device for imparting motion to the same, of a lifter, or intercepter or stop for said feed device, moved by said feed device independently of said feed-wheel, substantially as specified. 2nd. In a sewing machine, the combination with a feed-wheel, and a feed device for imparting motion to the same, of a plate or piece provided with a projection in the plane of the feed device and extending beyond the feed-wheel and co-acting with the feed-wheel, said plate or piece being moved by said feed device independently of said feed-wheel, substantially as specified. 3rd. In a sewing machine, the combination with a feed-wheel, and a feed device for imparting motion to the same, of a plate or piece provided with a projection in the plane of the feed device, and extending beyond the feed-wheel and co-acting with the feed device, said plate or piece being moved by said feed device independently of the feed-wheel, and means for producing friction to hold the said plate or piece in position, except when it is positively actuated, substantially as specified. 4th. In a sewing machine, the combination with a feed-wheel, and a feed device for imparting motion to the same, of a plate or piece provided with a projection in the plane of the feed device and extending beyond the feed-wheel, and having shoulders or projections co-acting with a pin or projection extending from the feed-wheel, and said plate co-acting with the feed device periodically to derive motion therefrom, substantially as specified.

No. 47,759. Fence Wire Stay.

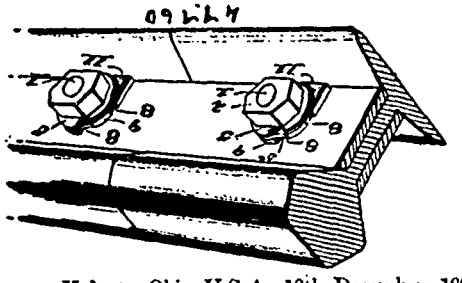
(*Etai pour clôture de fil de fer.*)



David H. Royer, Greenville, Ohio, U.S.A., 18th December, 1894; 6 years.

Claim.—As an improved article of manufacture, a fence stay composed of a wire having coils at one end, and a loop at the other, a wire with coils at the centre and loops at the ends, and a wire with a loop at one end and coils at the other end, the loops of the various wires being engaged, substantially as shown and described.

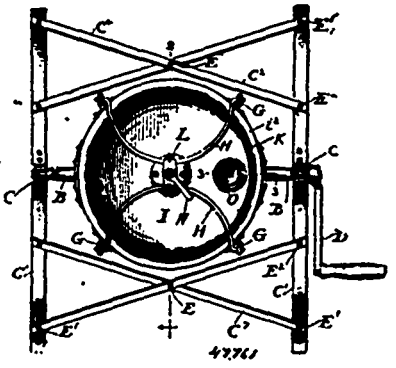
No. 47,760. Nut-Lock. (*Arrête-écrou.*)



Sylvanus Stevens, Holgate, Ohio, U.S.A., 18th December, 1894; 6 years.

Claim.—In a nut-lock, the combination of a ratchet piece having a lower straight edge and provided at its upper edge with a series of recesses, a nut provided on its inner face with a series of integral radial lugs extending outward from the bolt openings, and a locking washer having a bolt opening and provided with a series of slots disposed radially and agreeing in number with the lugs and extending outward from the bolt openings and receiving the lugs, said locking washing being provided at its periphery with a resilient tooth formed by a radial cut, and set at an angle and providing a square shoulder for engaging the recesses, whereby the nut is adapted to be rotated forward to carry the tooth from one recess to another to tighten the parts, substantially as described.

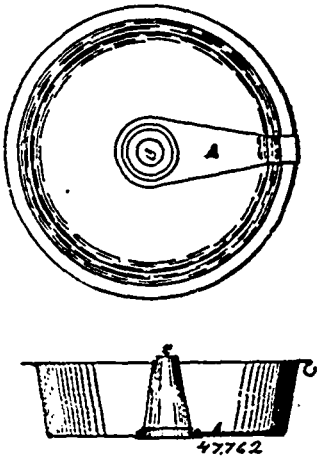
No. 47,761. Churn. (*Baratte.*)



Lee Sturges, Chicago, Illinois, U.S.A., 18th December, 1894; 6 years.

Claim.—1st. The combination with the body of a vessel and the cover thereof, of a hoop surrounding the body at top, and suitable devices for holding the cover in place, said devices being suitably attached to said hoop and the body of the vessel being provided with a flange which extends outward over the hoop and forms a seat for the cover, substantially as set forth. 2nd. The combination with the body of a vessel and the cover thereof, of a hoop surrounding the body at top and suitable devices for holding the cover in place, said devices being suitably attached to said hoop and the body of the vessel being provided with a flange which extends outward and downward over the hoop and forms a seat for the cover, substantially as set forth. 3rd. The combination with the body of a vessel and the cover thereof, of a hoop surrounding the body at top, bails suitably attached to said hoop and adapted to extend inward over and engage the cover, and means attached to the cover for engaging the bails, and drawing them down on the cover, the body being provided with a flange which extends outward over the hoop and forms a seat for the cover, substantially as set forth. 4th. The combination with the body of a vessel, of a cover therefor, said cover being formed of sheet metal and having a sunken portion, resulting in a shoulder surrounding the sunken portion and a flange extending outward from the shoulder, and a strengthening ring secured to the shoulder, substantially as set forth. 5th. The body of a vessel and a cover therefor, said cover being formed of sheet metal and having a sunken portion resulting in a shoulder surrounding the sunken portion and a flange extending outward from said shoulder, in combination with a strengthening ring bearing against the sunken portion and projecting above the shoulder, and devices for *holding the cover* in place, said devices engaging the strengthening ring, substantially as set forth. 6th. The combination with the body of a vessel, of a cover therefor, formed of sheet metal and having a sunken portion resulting in a shoulder surrounding said sunken portion and a flange extending outward from said shoulder, the outer margin of said flange being turned down to form a second flange, said flanges and shoulder resulting in an annular groove, and a packing ring fitting in said groove, one wall of the groove having a shoulder engaging the ring and holding it in place, substantially as set forth. 7th. A plug for peep-holes having, in combination, an outer screw-threaded ring having internal and external flanges, an inner ring having internal and external flanges, and a pane of glass clamped between the said internal flanges, one of the external flanges being spun over the margin of the other, substantially as set forth.

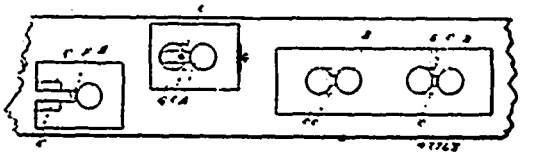
No. 47,762. Bake Pan. (*Casserole.*)



George F. Blockberger, Pasadena, California, U.S.A., 18th December, 1894, 6 years.

Claim.—The combination of the cake or pie pan, and a thin blade revolvable about the interior thereof, and having the centre of the pan as the axis of revolution of said blade for the purpose of effectually separating cakes or pies from the interior of the pans in which they are baked, substantially as set forth.

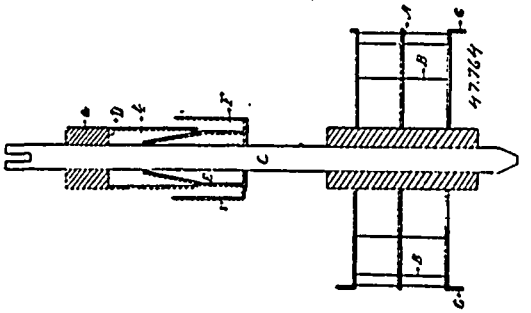
No. 47,763. Nut Lock, Etc. (*Arrête-écrou.*)



Albert Edwin Trentowsky, St. John, New Brunswick, Canada, 18th December, 1894, 6 years.

Claim.—1st. An independent bolt or bolts having lateral grooves, notches or depressions on two sides near one end thereof, so arranged as to engage its sides and end with a slot as I, made in a plate, after having passed through a hole or eye or along a cutting in the plate as above described, this engagement being effected by moving or driving the plate in the direction of its length, causing the bolt entrance to remove and the slot in plate to engage the neck and end of bolt formed by the lateral opposing grooves D, D, together with a plate having a bevel or short incline C, C, on the face of the slot or cutting to enable the plate while being driven on to exert the power of a wedge in drawing the fastening close. 2nd. A drop-pin or spring-catch E, E², F, or G, or fastening similar thereto in combination with a bolt and plate fastening D, D, I, I, and C, C, to prevent the plate from being accidentally slid back and removed.

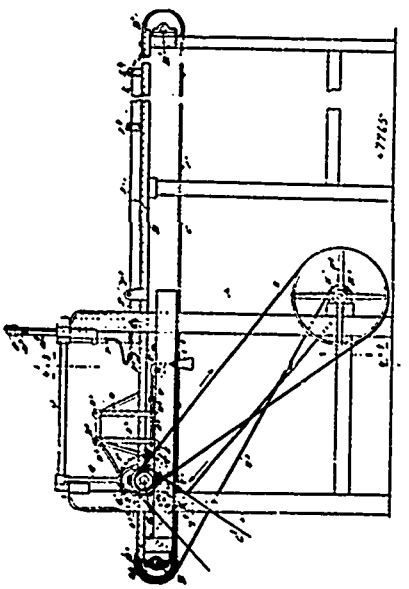
No. 47,764. Water Wheel. *Roue hydraulique.*)



Cällixte Ethier, Montréal, Québec, Canada, 18 décembre, 1894; 6 ans.

Résumé.—1er. La combinaison de ces aubes B, au moyen de la cloison A, de manière à former une roue double, telle que ci-dessus décrite. 2me. En second lieu je réclame la combinaison du cylindre F, et du trone de cône E, ce dernier étant ajustable dans le cylindre D, le tout tel que décrit et pour les fins indiquées.

No. 47,765. Edger. (*Machine à ébarber.*)



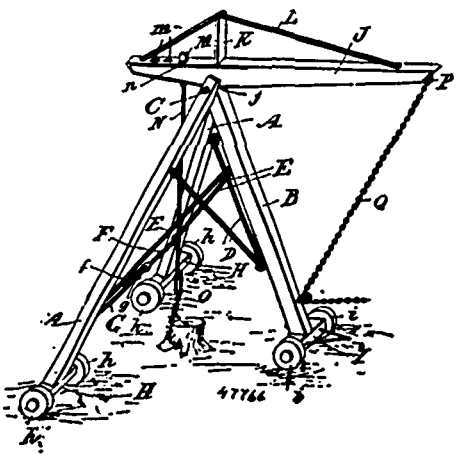
John Cox, Victoria, British Columbia, Canada, 18th December, 1894; 6 years.

Claim.—1st. An edger comprising a carrier belt for moving the article forward to the saws, and shifting devices actuated by the forwardly moving article, to set the saws transversley on their spindle according to the width of the article to be cut, substantially as shown and described. 2nd. An edger comprising a revoluble spindle, saws mounted to be shifted on the said spindle and revolving with the same, and shifting devices adapted to be actuated by the forwardly-moving article to be edged, the said devices being connected with the said saws to shift the latter transversely on their spindle, substantially as shown and described. 3rd. An edger comprising an endless feed belt for carrying forward articles to be edged, a spindle mounted to revolve, saws mounted to turn with the said spindle and fitted to slide transversely thereon, and tripping devices adapted to be actuated by the article carried on the said belt, the said tripping devices being connected with the said saws to shift the latter transversly on their spindle, substantially as shown and described. 4th. An edger comprising an endless feed belt for carrying forward the article to be edged, a spindle mounted to revolve, saws mounted to turn with the said spindle and fitted to slide transversely thereon, tripping devices adapted to be actuated by the article carried on the said belt, the said tripping device being connected with the said saws to shift the latter transversely on their spindle, and means, substantially as described, for returning the said tripping devices to their normal position after the article has passed the said tripping devices, as set forth.

No. 47,766. Stump Extractor. (*Arrache-souche.*)

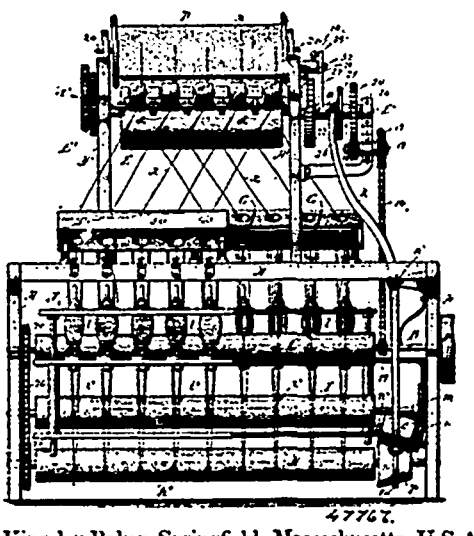
Michael Alexander Kennedy, Pembroke, Ontario, Canada, 18th December, 1894; 6 years.

Claim.—1st. In a stump extractor, the combination with the tripod A, A, B, of the lever J, fulcrumed on a belt secured to the upper ends of the legs of the said tripod, the strut E, truss rod L, slots formed in the shorter arm of the said lever J, an eyed bolt adapted to be secured by means of a pin in one of the said levers, substantially as set forth. 2nd. In a stump extractor, the combina-



tion with the three legs of a tripod secured by a belt at the top, the said bolt forming a fulcrum for the lever, of the brace rods D, D, and E, E, securing each of the rear legs to the front leg, the rods F, G, the finger *f*, carried by the rod F, and the link *g*, on the rod G, the axles H, H, and I carry-wheels *h*, *h*, and *i*, secured and pivoted to the rear legs and front leg respectively, substantially as set forth.

No. 47,767. Spinning-Machine. (*Machine à filer.*)



Edmund Kingsley Baker, Springfield, Massachusetts, U.S.A., 19th December, 1894; 6 years.

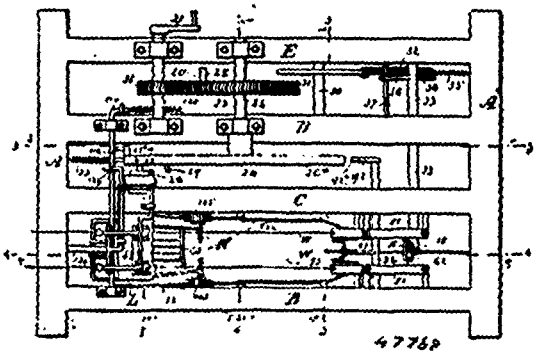
Claim.—1st. In a spinning-machine, the combination with an intermittently operating let-off device for controlling the delivery of the roving of a uniformly rotating twister, and drawing rolls having a continuous rotary motion and means for accelerating said motion concurrently with the let-off of the roving, substantially as described. 2nd. In a spinning-machine, the combination with a cylinder for controlling the let-off of the roving, the feed-rolls, devices for intermittently imparting rotational movements for let-off to the said cylinder, and mediums of driving connection between the said cylinder and feed-rolls, of the rotary twisting head carrying also the independently rotatable drawing rolls, and means for accelerating the rotation of the drawing rolls concurrently with the let-off of the roving, substantially as described. 3rd. In a spinning-machine, the combination with a cylinder for controlling the delivery of the roving provided on its arbour with a fixed ratchet-wheel 23, and a sleeve *a*, loose on the arbour, having an arm 27, a pawl 28, on said arm, the finger, or projection 29, the guard covering a portion of the circumference of the ratchet-wheel and means for rotating the said sleeve, substantially as described. 4th. In a spinning machine, the combination with a cylinder for controlling the delivery of the roving from the supply having on its arbour the fixed ratchet-wheel and the loose sleeve with the gear 24, the arm 27, and the pawl 28, having the finger 29, the guard 32, overlying a portion of the circumference of the ratchet-wheel a stud, or shaft 17, with the gear-wheel 16, and a suitably driven shaft of the machine, and a medium of driving connection between this shaft and said gear-stud 17, substantially as described. 5th. In a spinning-machine, a mechanism for

intermittently delivering forward a certain length of the roving, in combination with a rotating twister carrying a pair of drawing rolls whose axes of rotation are at right angles to the axis of rotation of the twister, means for rotating the twister, a driving mechanism for the drawing rolls and means for accelerating the motion of this driving mechanism concurrently with the let-off of fresh roving, substantially as described. 6th. In a spinning-machine, the combination, with a mechanism for intermittently delivering roving from its supply support, of a twisting head comprising a rotatable body with a pair of drawing rolls turning bodily therewith and rotating about axes angularly to the axis of rotation of the twister-body, means for driving the twister at a uniform speed, a drum and a driving connection between it and the drawing rolls, a cone having a continuous uniform rotary motion, a medium of driving connection between this cone and the said drum, one part of which is in peripheral contact with, and movable endwise along said cone, and means for automatically and intermittently moving the said part along the cone, substantially as described. 7th. In a spinning machine, the combination with an intermittently operating let-off mechanism for the roving and the rotary twisting body having the drawing rolls which rotate independently and angularly to the axis of rotation of the said body, of a drum, having a driving connection with the twister-body and a drum having a driving connection with the drawing rolls, means for driving the first drum at a regular rate of speed, a differential driving mechanism for running the second drum at variable speeds and movable controlling connections between the intermittent let-off mechanism for the roving and said differential driving mechanism, substantially as and for the purpose set forth. 8th. In a spinning machine, the combination, with the rotary twister-body having the angularly arranged pair of drawing rolls and a wheel, having driving connection with the drawing rolls, a regularly rotating cone, a band running around said cone, and rotary let-off driving connections driven by and intervening between it and the said drawing roll drum, a band shipping lever, the rotary let-off mechanism for intermittently delivering new quantities of the roving, having, movable in conjunction therewith, a cam which periodically, and concurrently with the let-off, swings the band-shifting lever, substantially as described. 9th. In a spinning-machine, the combination, with cylinder E controlling the let-off of the roving, having on its arbour the fixed ratchet-wheel and the loose sleeve with the pawl-carrying arm and pawl and the cam 26, and the guard 32 covering a portion of the periphery of the ratchet-wheel, of the regularly rotating cone, the drum I with a gear thereon, a cylinder *o*, with gear *n*, the loose band 80 running in contact with both the cone and cylinder, and the lever *k* connected to the band and having its extremity in operative contact upon said cam, all substantially as described. 10th. In a spinning machine, the combination, with an intermittently operating let-off device for controlling the delivery of the roving, of the twister head comprising the intermediate box-like part with hollow cylindrical end portions which constitute journals, one thereof having the fixed pulley *k*, while the other receives the loose sheave *i* with a gear thereon, in combination with a pair of fluted drawing rolls one of which is journalled in fixed bearings in the said box-like part, while the other has bearings which are yielding relative to the box against the pressure of springs which are applied for action upon said movable bearings, said drawing rolls being adapted to be driven the one from the other and the primary one having a gear in mesh with the gear on the said sheave *i*, and means for accelerating the rotation of the sheave *i*, intermittently and concurrently with the let-off of the roving, substantially as described. 11th. In a spinning-machine, the twister head having the tubular ends 53, 53, and the hollow box-like intermediate part with the journal receiving recesses 59, 59, and a fluted drawing roll mounted therein in fixed journal bearings transversely of, and to one side of, the common axis of the said tubular ends, and the other fluted drawing roll journalled yieldingly within the recesses of the box-like part, springs for pressing the movably journalled roll toward its fellow, the fixed sheave *h* on one of the tubular ends, and the sheave *i* loose on the tubular end and having a gearing engagement with the journal-shaft of one of the drawing-rolls, in combination with intermittently operating let-off mechanism for controlling the delivery of the roving, means for uniformly driving the twister head and means operating in conjunction with the intermittent let-off for insuring accelerated driving of the drawing-rolls concurrently with the let-off, substantially as described. 12th. In a spinning-machine, the combination with an intermittently operating mechanism for the let-off or delivery of the roving, of a uniformly rotating twister having drawing rolls mounted therein and adapted for continuous rotary motions, means for accelerating the motions of the drawing rolls independently of the motion of the twister, and concurrently with the let-off of the roving, the spindles, means for driving the same, and the ring-rail, for imparting the final yarn twist to the drawn roving which is continuously delivered thereto from the variably speeded drawing and twisting mechanism, substantially as described.

No. 47,768. Machine for Making Wire Ties for Bales and the Like. (*Machine pour faire des liens en fer pour les ballots, etc.*)

Ovide Lamothe, St. Guillaume, Quebec, Canada, 19th December, 1894; 6 years.

Claim.—1st. In a machine for making the loop at the end of wire bale ties, the combination with the twisted rods 60 journalled in suitable bearings, the plates 62, having apertures closely fitting the said rods, the toothed discs 63 having square apertures fitting the said rods, pawls 66 engaging the said toothed discs, means for



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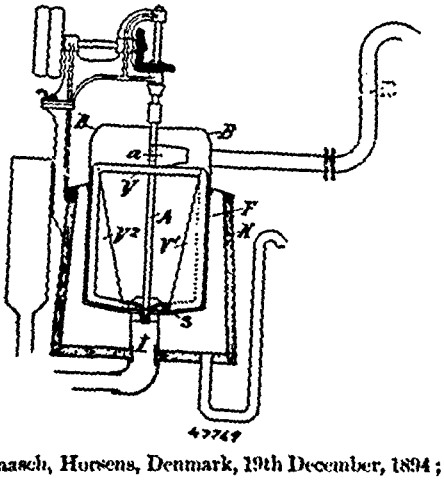
reciprocating the said casing on said rods, of the plates 76 having pins 78 secured thereon, substantially as set forth. 2nd. In a machine for forming wire bale ties, the combination with the plates 76, and means for twisting the said plates, the pins 78 carried by the said plates of the levers 83 carrying pins 84 and means for operating the said levers, substantially as set forth. 3rd. A device for twisting a wire when a loop has been formed thereon, consisting of a twisted rod in suitable bearings a casing adapted to be reciprocated on said rod, the said casing having an aperture through which the said rod passes, a toothed disc in the casing, having an aperture corresponding to the section of the said rod, and adapted to slide thereon, a pawl engaging the said disc, so that the said disc will slide and be revolved by the rod while moving in one direction and be held by the said pawl, and turn the said rod while moving in the opposite direction, substantially as set forth.

No. 47,769. Pasteurizing Apparatus.

(*Appareil à chauffer les aliments.*)



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Wilhelm Paasch, Horsens, Denmark, 19th December, 1894; 6 years.

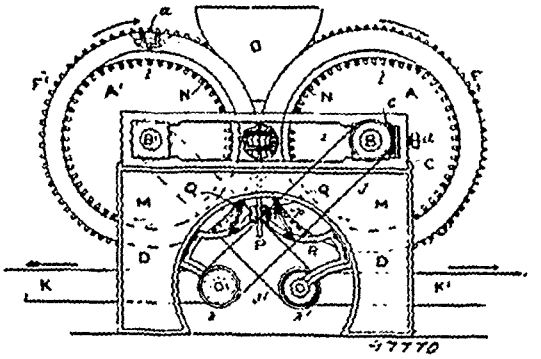
Claim.—1st. In pasteurizing or feed-heater apparatus for milk, cream, etc., consisting of a vat F, in which an agitator V, supplied with fans V V, is placed on a perpendicular axle A, the arrangement, that the vat F, is fitted above with an outlet so as to employ the centrifugal force produced by the agitation to raise the fluid up above the level of the affux, eventually to a greater height than that of the vat. 2nd. By the pasteurizing or feed-heater apparatus for milk, cream, etc., described under 1, the arrangement, that the agitator V, is at the lower end fitted with a horizontal plate S, on the underside of which fans r are placed, that during the agitation at once catch hold of the fluid coming in through an inlet I, in the centre of the vat F, and bringing the fluid to rotate.

No. 47,770. Brick Machine. (*Machine à brique.*)

Samuel Edward Haskin, Avoca, New York, U.S.A., 19th December, 1894; 6 years.

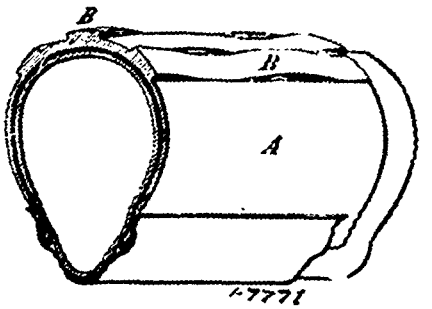
Claim.—1st. In a brick machine, the combination of two mould-wheels each provided with a series of complete moulds the size and shape of the bricks to be formed and having their peripheries in contact, means for rotating the wheels in opposite directions, whereby two bricks are simultaneously formed at the point of contact, and means for separating the two bricks and delivering them separately, substantially as described. 2nd. In a brick machine, the combination of two mould-wheels, each provided with a series of

complete moulds, the size and shape of a brick, discharging devices for the several moulds, means for rotating the wheels in opposite directions with their peripheries in contact, whereby two bricks are



simultaneously formed at the point of contact and means for separating the two bricks, substantially as described. 3rd. The combination of two wheels rotating in opposite directions, with their rims in opposite directions, with their rims in contact, and provided each with moulds in such relation that the faces of the moulds come together at the point of contact, thereby forming two bricks simultaneously, and a separating knife or blade having its edge just beneath the line of contact, substantially as described.

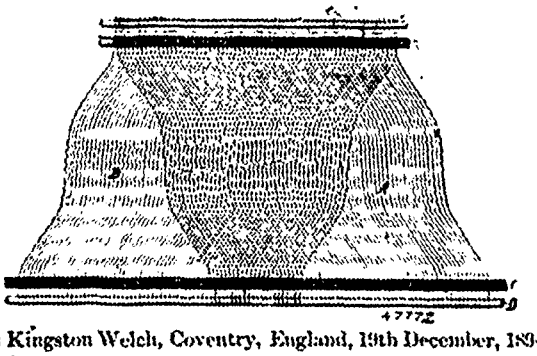
No. 47,771. Pneumatic Tire. (*Bandage pneumatique.*)



Charles K. Welch, Coventry, England, 19th December, 1894; 6 years.

Claim.—For pneumatic tires, a non-slipping cover or band constructed substantially as hereinabove described with reference to any of the forms illustrated in the drawings for the purposes specified.

No. 47,772. Pneumatic Tire. (*Bandage pneumatique.*)



Charles Kingston Welch, Coventry, England, 19th December, 1894; 6 years.

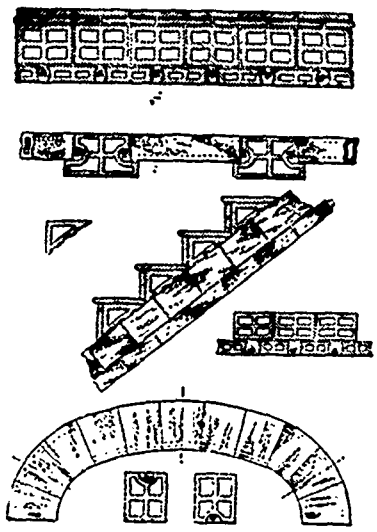
Claim.—1st. In a pneumatic tire, the combination with the air-tube of an arched or divided tubular jacket or lining separate from or integral with said air-tube and consisting of two or more series of parallel threads extending transversely across the tire, the threads in one or more series being at an angle with the threads in the other or remaining series of threads respectively, substantially as described. 2nd. In a pneumatic tire, the combination with the air-tube, of an arched or divided tubular jacket or lining separate from or integral with said air-tube and consisting of two or more series of parallel threads extending transversely across the tire, the threads in one or more series being at an angle with the threads in the other or remaining series of threads respectively, and longitudinal threads at the sides or thread portions or at both sides and thread portions of the jacket, substantially as described. 3rd. In a pneumatic tire, the combination with the air-tube, of an arched or divided tubular jacket or lining separate from or integral with said air-tube and consisting of two or more series of parallel threads extending transversely across the tire, the threads in one or more series being at an angle with the threads in the other or remaining series of threads respectively, and a series of longitudinal threads extending throughout the whole breadth of the tire, substantially as described. 4th. In a pneumatic tire, the combination with the air-tube, of an arched and divided tubular jacket or lining separate from or integral with said air tube, and consisting of two or more series of parallel threads extending transversely across the tire, the threads in one or more series being at an angle with the threads in the other or remaining series of threads respectively, and inextensible cores contained in the sides or edges of the jacket for holding the tire to the rim of a wheel, substantially as described. 5th. In a pneumatic tire, the combination with the air-tube, of an arched or divided tubular jacket or lining consisting of two or more series of threads extending transversely across the tire, the several threads of each series being bent or curved, the curvature of the threads in one or more of the series being opposite to that of the threads in the other or remaining series, substantially as described. 6th. In a pneumatic tire, the combination, with the air-tube, of an arched or divided tubular jacket or lining consisting of two or more series of threads extending transversely across the tire, the several threads of each series being bent or curved, the curvature of the threads in one or more of the series being opposite to that of the threads in the other or remaining series, with longitudinal threads at the sides or edges of the jacket, substantially as described. 7th. In a pneumatic tire, the combination, with the air tube, of an arched or divided tubular jacket or lining consisting of two or more series of threads extending transversely across the tire, the several threads of each series being bent or curved, the curvature of the threads in one or more of the series being opposite to that of the threads in the other or remaining series, and a series of longitudinal threads extending throughout the whole breadth of the tire, substantially as described. 8th. In a pneumatic tire, the combination, with the air-tube, of an arched or divided tubular jacket or lining consisting of two or more series of threads extending transversely across the tire, the several threads of each series being bent or curved, the curvature of the threads in one or more of the series being opposite to that of the threads in the other or remaining series, and inextensible cores contained in the sides or edges of the jacket for holding the tire to the rim of a wheel, substantially as described. 9th. In a pneumatic tire, the combination, with the air-tube, of an inextensible arched or divided tubular jacket or cover for said air-tube, separate woven tubes secured to the sides or edges of said jacket, and inextensible cores for holding the tire to the rim, substantially as described. 10th. The method of making an inexpansible lining or jacket for a pneumatic tire, by first weaving a seamless tube of approximately the same diameter as the wheel to which the tire is to be applied, said tube being devoid of weft threads at some parts thereof, then cutting from said tube, an endless band having a suitable number of weft threads to maintain the warps in position during the subsequent operations, and lastly displacing the warps and folding and otherwise manipulating the band to the proper form, substantially as described. 11th. The method of making an inexpansible lining or jacket for a pneumatic tire by superposing two separate endless bands of fabric each band consisting mainly of transverse threads, and so arranging the threads that the threads of one of the bands are at an angle with the threads in the other band, substantially as described. 12th. The method of making an inexpansible jacket or lining for a pneumatic tire which consists in first placing an endless band consisting mainly of transverse threads on a collapsable former, then displacing the edges of the band so that the threads of the band extend diagonally from one edge to the other, then coating the band with india-rubber solution, and after the same is dry folding the band about its median line so as to form the two layers of the jacket, substantially as described. 13th. The method of folding a band to form two layers within an india-rubber ring G, which is first inserted between the band and the former, on which the band is placed, the said ring being then rolled over upon itself so as to cause the part of the band outside the ring to cover the other part of the band. 14th. The method of making an inexpansible jacket or lining for a pneumatic tire, by first placing an endless band consisting mainly of transverse threads, on a suitable former, then displacing the threads of one half of the band to a suitable extent and coating the said half of the band with india-rubber solution, next placing a sheet of india-rubber round the same half of the band, then folding the band so that the second half thereof covers the india-rubber sheet, then displacing the threads of the second half of the band, so as to make any suitable angle with the threads of the first half, and finally coating the band with spirit or thin india-rubber solution for the purpose of dissolving the rubber sheet between the layers so as to secure the two layers of the jacket together, substantially as described.

No. 47,773. Floor, etc. (*Plancher, etc.*)

Thomas A. Lee, New York, State of New York, U.S.A., 19th December, 1894; 6 years.

Claim.—1st. In combination in a floor, roof, or like structure, a layer of tiles or the like, cemented together and a layer of tiles and tension rods cemented together, and to the first said layer, whereby distinct and parallel compression and tension portions are formed

rigidly held together, substantially as and for the purposes set forth. 2nd. In combination in a floor, roof or like structure, a layer of material arranged to sustain the compressive strains of the said structure, a second layer of material arranged to sustain the tensile strains of the said structure, and means, as cement, securing the said layers firmly together and parallel and thereby preventing the shearing of one upon the other, substantially as and for the purposes set forth. 3rd. In combination in a floor, roof, bridge or like



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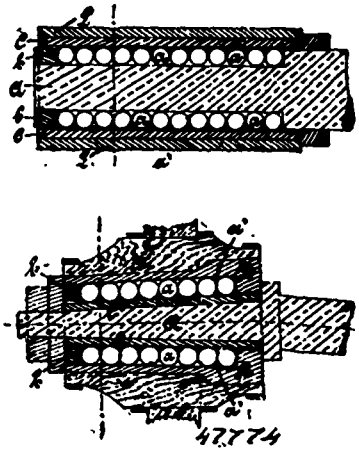
structure, one or more layers of hollow tiles cemented together and a layer of hollow tiles and tension-rods cemented together and to the first said layer, thereby forming tension and compression members with a hollow web between, substantially as and for the purposes set forth. 4th. In combination in a floor, roof, bridge or like structure, one or more layers of hollow tiles cemented together and a layer containing tension-rods in cement or the like, the upper walls of the said hollow tiles forming a compression member and the hollows and lateral walls of the said tiles forming an open work web uniting such member with the said tension-rod, substantially as and for the purposes set forth. 5th. In combination in a floor, roof, bridge or like structure, one or more layers of hollow tiles cemented together, tension-rods, secured beneath the said layer or layers, and one or more layers of compression resisting tiles, upon the said hollow tiles forming with the upper walls of the said hollow tiles, a compression member separated from the said tension-rod by a web of hollow tiling, substantially as and for the purposes set forth. 6th. In combination in a roof, floor, bridge or like structure, a layer of light tiling, tension-rods secured beneath the said light tiling and a layer of heavier compression resisting tiling secured above the said light tiling, whereby tension and compression members are formed separated by a light web, substantially as and for the purposes set forth. 7th. In combination in a floor, roof or like structure, a layer of tiles cemented together and a layer of tiles and tension-rods cemented together and to the first said layer, the said rods being provided with washers or other projections fitting between the tiles, substantially as and for the purposes set forth. 8th. In combination in a floor, roof or like structure, a layer of material arranged to sustain the compressive strain of the said structure, a second layer of material arranged to sustain the tensile strains, and a skylight, or other frame, provided with supporting beams or projection for distributing the load upon adjacent parts of the structure and flanges for supporting the ends of the short spans between the said frame and the edge of the said structure, substantially as and for the purposes set forth. 9th A skylight or like frame provided with projecting beams or supports for distributing the load upon adjacent parts of tile flooring and like structures, substantially as and for the purpose set forth. 10th. In combination in a floor, roof or like structure a layer of tiles cemented together, a pipe or other conduit imbedded in the said layer and surrounded by cement and a layer of tiles and a tension rod cemented together and to the first said layer, substantially as and for the purposes set forth. 11th. In combination in a floor, roof, or like structure, a layer of tiles cemented together, and a second layer of tiles, provided with tension-rods laid in channels formed between the tiles and cement surrounding the said rods, and securing them and the tiles together and to the first said layer, substantially as and for the purposes set forth. 12th. A layer of tension-rods and tiles for use, substantially as described, the said tiles being provided with channelled faces whereby the form tubular or other spaces between adjacent tiles for reception of the said tension-rods and cement securing the said tiles together and to the said rods, substantially as and for the purposes set forth. 13th. In combination with a floor, roof or like structure constructed with tension and compression layers, as described, one or more superposed layers of tiles for reinforcing the said compression layer and thereby increasing the strength of the structure, substantially as and for the purposes set forth. 14th. In combination in a floor, roof or like structure, as one or more layers of tiling cemented together to form an united layer capable of bearing the compressive strains of the said structure, a second layer provided with tension rods and constructed to sustain the tensile strains of the said structure, and one or more intermediate layers or webs of hollow tiling secured to the first and second said layers, substantially as and for the purposes set forth. 15th. In combination in a floor, roof or like structure, one or more layers of tiles cemented together, a layer containing tension-rods embedded in cement and a facing of tiles secured to the second said layer, substantially as set forth. 18th. In combination in a floor, roof or like structure one or more layers of tiles cemented together, a layer containing tension-rods embedded in cement, and facing of tiles secured to the second said layer and provided with block-shaped portions filling in between the said tension-rods and reducing the amount of cement required, substantially as and for the purposes set forth. 17th. A facing tile for use, substantially as described, provided with one or more hollow block-shaped portions for filling in between the tension-rods for the purposes set forth. 18th. In combination with a composite tire and tension-rod floor a coating of fine cement, concrete or other suitable material superposed upon the said floor and forming the finished surface, substantially as described. 19th. In combination with an inclined support for stairways, triangular tile brackets or blocks for carrying the treads and faces of the stairs, substantially as and for the purposes set forth.

No. 47,774. Ball Bearing. (*Coussinet à boule.*)



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Julius Peter Jensen and Andreas Joachim Ludwig Trebbin, both of Copenhagen, Denmark, 19th December, 1894; 6 years.

Claim.—1st. Ball-bearings applicable to rotary motions of any kind, thus characterized, that the balls *a*, are placed in canals a^1, which are either parallel with the axle A, Figs. 1,-7, or lie in planes at right angles with the axle, Figs 8, 11, and in both cases by projecting edges a^2, prevented from falling out, when the axle, the axle-tree arm, the gudgeon is disjoined from its bearings L, as substantially set forth. 2nd. In the ball-bearing described under 1, the manner of construction that the canals a^1, and the projecting edges a^2, by borings or in any other suitable way are fixed in the axle itself A, Figs 1 and 2, as substantially set forth. 3rd. In the ball-bearing described under Fig. 1, the manner of construction that the canals a^1, and the projecting edges a^2, by borings or in any other suitable way are placed in the bearing itself L, Fig. 3, as substantially set forth. 4th. In the ball-bearing described under 1, the manner of construction that the canals a^1, and the projecting edges a^2, are placed in one to the bearing L, attached box B^1, Figs. 4, 6, 8 and 9, as substantially set forth. 5th. In the ball-bearing described under Fig. 1, the manner of construction that the canals a^1, and the projecting edges a^2, are fixed in one to the axle attached box B^1, Figs. 7, 10 and 11, as substantially set forth. 6th. In the ball-bearing described under 1, the arrangement of a removable wear-box *b*, placed either in the bearing L, or on the axle A, and concentrical with the latter A, Figs. 1,-11, as substantially set forth. 7th. In the ball-bearing described under Fig. 1, the arrangement that where the canals a^1, are parallel with the axle A, rolls are used instead of balls, as substantially set forth.

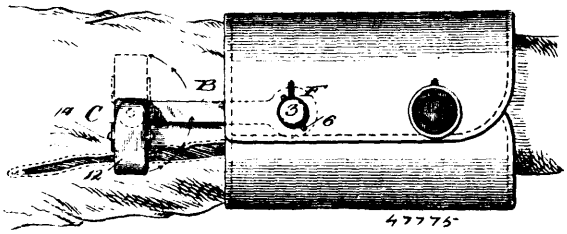
No. 47,775. Cuff-Holder. (*Agrafe-poignet.*)

John V. Smith, Hayes, Illinois, U.S.A., 24th December, 1894; 6 years.

Claim.—1st. The herein described cuff-holder, the same comprising a body composed of a metallic strip having parallel edges and rounded corners at its upper end, a fastening device for the cuff at the lower end of the said body, a clasp for the sleeve whose base-plate is bent on a transverse line at the rear end of the clasp into a lip standing beneath and parallel with said base-plate, and a rivet connecting the lip and base-plate, said rivet passing pivotally through said body at the centre of said upper rounded end, as and

for the purpose set forth. 2nd. In a cuff-holder, the combination with a body and a reversible clasp at its upper end, of a fastening device for the cuff, consisting of a tubular shank rising from the

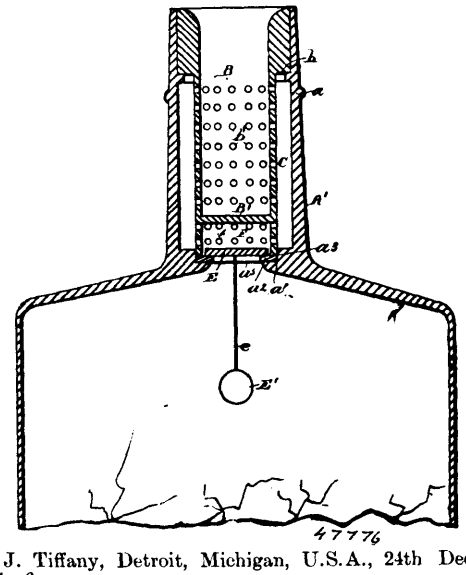
Fig. 1.



lower end of the body at right angles thereto and having an interior annular groove, a hollow head having a depending stem adapted to pass into said shank, and two spring-actuated catches mounted in the head with their tips adapted to engage said groove and their outer ends projecting outside the head, as and for the purpose set forth.

No. 47,776. Self Sealing Bottle.

(*Appareil automatique pour cacheter les bouteilles.*)



Martin J. Tiffany, Detroit, Michigan, U.S.A., 24th December, 1894; 6 years.

Claim.—1st. The combination with a bottle, of a valve seated within the neck of the bottle, and a perforated case or cylinder located thereabove, said case provided with a solid division wall toward its base forming a chamber above said valve, the lower end of the case spaced from the inner wall of the neck of the bottle to form a chamber C therebetween said chamber communicating through said case above and below said division wall, substantially as set forth. 2nd. The combination with a bottle constructed with an inner horizontal seat and vertical shoulder toward the base of the neck of the bottle, of a packing gland located upon said seat, a valve located upon said gland, and a perforated case or cylinder supported upon said gland within said vertical shoulder, said case provided with a division wall toward its base above said valve and spaced toward its lower extremity from the inner wall of the neck of the bottle forming a chamber C therebetween, said chamber communicating through said case above and below said division wall, substantially as set forth. 3rd. A combination, with a bottle, of a valve located within the neck of the bottle, and a perforated case or cylinder located above said valve, said case provided with a division wall toward its base forming a chamber F above said valve and spaced from the inner wall of the neck of the bottle forming a chamber C therebetween communicating through said case above and below said division wall, said case further provided with an outwardly projecting flange B^2, substantially as set forth. 4th. In combination, a bottle having its neck provided with an inner shoulder a, a horizontal seat a^1, and a vertical shoulder a^3, a packing gland located upon said seat, a valve located upon said gland, a perforated case or cylinder provided with a division wall B^1, forming a chamber F therebeneath, and a chamber C between the case and the inner wall of the neck of the bottle communicating through the case above and below the division wall, the upper end of said case seating against the flange a, substantially as set forth.

No. 47,777. Wood Cutting Machine.

(*Machine pour couper le bois.*)

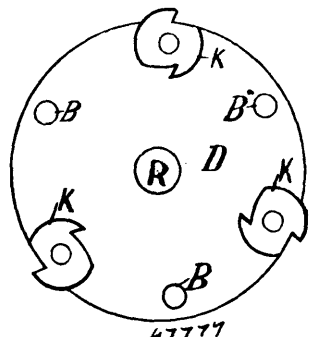


Fig. 1.

William Merrill, Saginaw, Michigan, U.S.A., 24th December, 1894; 6 years.

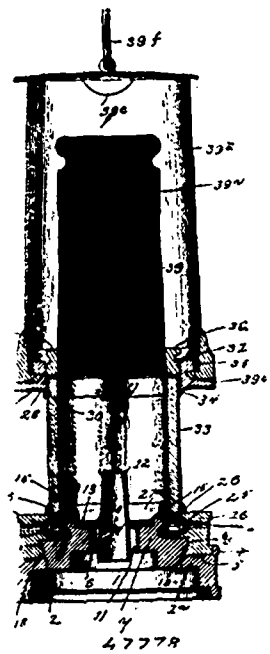
Claim.—1st. In the cylinder of a wood-cutting machine of the class described, the combination of a disc perforated for the reception of clamping bolts and cutters, with one or more cutters fitting in the cutter perforations, and being thicker than the disc, substantially as described. 2nd. In a wood-cutting machine of the class described, a revolving cutting cylinder having secured to its body at regular distances, cutters having the end of the portion inserted in the cylinder corresponding in shape to the exterior end, whereby the cutters are reversible, substantially as described. 3rd. In a wood-cutting machine of the class described, the combination with two collars on a central shaft of a series of flat discs between the collars, and on the same shaft, and a series of cutting surfaces clamped between the edges of the discs and projecting the proper distance therefrom, the whole being secured to the shaft at an oblique angle thereto, whereby the cutting surface will not cut in the same vertical plane, substantially as and for the purposes set forth. 4th. In a wood-cutting machine, the combination with two coliars on the same shaft, the inner surfaces of the collars being parallel but at an oblique angle to the axis of revolution of the shaft, a series of flat discs of the size of the collars clamped between the collars by bolts, of a series of knives clamped between the discs by the disc clamping bolts, the knives projecting beyond the edge of the discs, the whole forming a cutting cylinder, the knives cutting in different vertical planes by reason of the inner surfaces of the collars being at oblique angles to the shaft, one of the collars being secured to the shaft, the other capable of sliding on the shaft, substantially as and for the purpose set forth. 5th. In a wood-cutting machine of the class described, a cutting cylinder composed of two collars and one or more discs of the size of the collars, and clamped between the collars and small circular saws clamped between the collars and discs and between the discs, the circular saws being smaller than the radii of the cylinder and clamped near the edge of the discs, so that one tooth of the circular saw projects beyond the periphery of the collars and discs, as and for the purpose set forth. 6th. In a wood-cutting machine of the class described, a cutting cylinder composed of two collars and one or more discs between the collars, and circular saws smaller than the radii of the cylinder and clamped near the edge of the collars or discs, so that one tooth projects, the circular saws being provided with central apertures not circular in shape, and rods passing through the collars and discs and fitting the apertures in the circular saws to prevent them from turning, and nuts on the ends of the rods for clamping the collars, discs, and circular saws together, as and for the purpose set forth. 7th. In a wood-cutting machine of the class described, a revolving cutting cylinder having secured to its body at regular distances small disc-saws with one or more teeth of each saw projecting beyond the periphery of the cylinder and forming the cutting surface of the cylinder, as and for the purpose set forth. 8th. In a wood-cutting machine of the class described, a cylinder made of two collars having clamped between them one or more discs of like size, in combination with disc-saws smaller than the radii of the cylinder and so secured in the cylinder that a portion of each saw will project beyond the periphery of the cylinder and form its cutting surface, as and for the purpose set forth. 9th. In a wood-cutting machine of the class described, a cylinder composed of collars with discs between them of the size of the collars, and circular saws smaller than the radii of the cylinder, and clamped near the edge of the cylinder so that one tooth projects, the saws being provided with central apertures not circular in shape, and clamping rods passing through the cylinder and fitting the apertures of the saws, whereby by turning the rod each tooth of the saws may be exposed in turn as desired and form the cutting surface of the cylinder, as and for the purpose set forth. 10th. In a wood-cutting machine of the class described, a revolving cutting cylinder having secured in its body at regular distances small disc-saws so that one

tooth of the saw projects, the saws having central apertures not circular in shape, and clamping rods not circular in cross-section fitting the apertures of the saws, whereby the saws may be held in place and turned as desired to expose different teeth without removal from the cylinder, as and for the purpose set forth. 11th. In a wood-cutting machine having a revolving cylinder of the class described, the discs having in their peripheries cavities formed by the removal of the whole of the thickness of the disc for the reception of small disc-saws, substantially as and for the purpose set forth. 12th. In a cylinder of a wood-cutting machine of the class described, the combination of collars clamping between them circular metal plates which have cavities in their peripheries extending the whole thickness of each plate for the insertion of small circular saws, substantially as described. 13th. In a wood-cutting machine of the class described, a revolving cylinder composed of metal plates, each plate having in its periphery one or more small disc-saws as thick as the plate, substantially as described. 14th. In a revolving cylinder of a wood-cutting machine of the class described, the combination of a number of metal plates clamped together with disc-saws inserted in each plate, and clamped between the two adjacent plates, substantially as described. 15th. In the revolving cylinder of a wood-cutting machine of the class described, the combination of a series of circular metal plates, a number of small disc-saws inserted in each plate, and being slightly thicker than the plate, with means for clamping the small disc-saws and plates together, substantially as described. 16th. In the cylinder of a wood-cutting machine of the class described, the combination of a series of circular metal plates having in their edges deep cavities for receiving small disc-saws, and smaller cavities for the clearance of chips, the plates being so arranged that the disc saws in each plate come between and adjacent to the chip clearing cavities of the adjacent plates, with means for clamping plates and saws together, substantially as described. 17th. In a wood-cutting machine of the class described, the combination of a revolving cylinder composed of circular metal plates having small disc saws inserted in each plate, and a supporting frame having one side formed with cavities, the projections between the cavities being close to and equally distant from the periphery of the revolving cylinder, substantially as and for the purpose set forth. 18th. In a wood-cutting machine of the class described, a cylinder supporting frame having on its front side a support for an adjustable feed spout in combination with a series of splinter catching cavities, substantially as set forth. 19th. In a wood-cutting machine of the class described, the combination of the cylinder-supporting frame, with a feed spout plate, having an adjustable pivoted connection to the supporting frame, substantially as described. 20th. In a wood-cutting machine of the class described, the combination of a revolving cutter bearing cylinder, a supporting frame, and an inclined feed spout adjustably attached to the supporting frame, whereby its angle of inclination may be changed, substantially as and for the purpose set forth. 21st. In the revolving cylinder of a wood-cutting machine of the class described, a metal disc with holes for the reception of clamping bolts, with the chip clearing cavities in the periphery adjacent to the holes, and with perforations for the reception of cutters between the holes, substantially as described. 22nd. In a wood cutting machine of the class described, small disc saws having three teeth with a central perforation hexagonal in shape, substantially as set forth.

No. 47,778. Safety Lamp. (*Lampe de sureté.*)

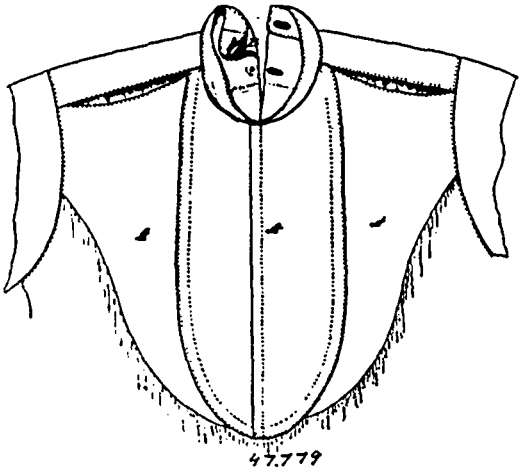
Robert Hay, Hugh Toal and Thomas Lowther, all of Mt. Pleasant, Pennsylvania, U.S.A., 24th of December, 1894; 6 years.

Claim.—1st. In a safety-lamp, the combination with a reservoir-cap, burner carried thereby, a base-ring removably secured to the reservoir-cap, a chimney-ring spaced from and connected to the base-ring, a chimney interposed between the planes of the base-ring and the chimney-ring, a crown-ring supporting a ventilator, and a half-thread and lug connection between the crown-ring and the chimney-ring, of a swivelled latch carried by the base-ring and chimney-ring and provided at its upper end with an arm to engage registering notches in the chimney-ring and crown-ring and provided at its lower end with an arm adapted to fit in an exterior groove in the base-ring, and a flange or rim carried by the reservoir-cap and engaging the extremity of the lower arm of the swivelled latch to hold the latter in its locking position when the reservoir-cap and base-ring are connected, substantially as specified. 2nd. In a safety-lamp, the combination with a reservoir-cap and a burner-ring supported thereby, of a base-ring seated upon the upper side of the reservoir-cap around the burner-ring, and provided with lugs engaging half-threads upon the burner-ring, a chimney-ring spaced from and connected to the base-ring and provided in its under side with a seat, ventilating devices supported upon the chimney-ring, a ventilating-ring fitted removably within the base-ring and provided at its upper side with a seat, said base-ring and the removable ventilating-ring being provided with registering horizontal perforations and interposed between and fitted at its extremity in the seats of the chimney-ring and ventilating-ring, substantially as specified. 3rd. In a safety-lamp, the combination with suitable supporting, inclosing and ventilating devices, of a burner-ring provided with a flange surrounding an annular seat, the burner-tube provided with a disc fitting in said seat, and a spring yoke provided with hooked terminals engaging half-threads on the outer surface of said flange of the burner-ring, substantially as specified. 4th. In a safety-lamp, the combination with a reservoir-cap, a burner-ring, a base-ring surrounding and secured to the burner-ring, a pawl and ratchet connection between the base-ring and the reservoir-cap, a chimney-ring spaced from and connected to the base-ring, and a chimney arranged between and held in place by the base-ring and chimney-ring, of a ventilating guard secured at its lower end to the chimney-ring, a crown-ring removably secured to the chimney-ring and supporting a ventilator, and locking devices for said crown-ring which are controlled by the connection of the reservoir-cap and base-ring, substantially as specified. 5th. In a safety-lamp, the combination with a reservoir-cap supporting a burner-ring of a base-ring removably secured to the reservoir-cap and provided with a series of ventilating perforations, said base-ring having an inner annular removable member or ventilating-ring 23 provided with perforations corresponding with those of the main body of the base-ring, a reticulated guard covering said perforations, a chimney surmounting the removable member or ventilating-ring, and ventilating devices arranged above the upper end of the chimney, substantially as specified. 6th. In a safety-lamp, the combination with a removable cap and a burner-ring supported thereby, of a base-ring seated upon the upper side of the reservoir-cap around the burner-ring and removably attached thereto, a chimney-ring spaced from and connected to the base-ring and comprising an outer cap-ring and an inner detachable holding ring provided in its underside with a seat, ventilating devices supported upon the chimney-ring, a ventilating ring removably fitted within the base-ring and provided in its upper side with a seat, said base-ring and the removable ventilating ring being provided with registering horizontal perforations, and a chimney interposed between and fitted at its extremities in the seats of the ventilating ring and the holding ring, and held by the latter in such position, substantially as specified. 7th. In a safety-lamp, the combination with a reservoir-cap, and a burner-ring supported thereby, of a base-ring seated upon the reservoir-cap around the burner-ring and detachably secured to the latter, said burner-ring being provided at its inner periphery with an upstanding flange, a ventilating ring fitted removably within the burner-ring and held from downward displacement, said ring being provided at its inner periphery with an upstanding flange corresponding with that on the inner periphery of the burner-ring and combining with said flange and the upper side of the ventilating ring to form a seat, a chimney-ring spaced from and connected to the base-ring and provided in its under side with a seat, ventilating devices supported upon the chimney-ring, and a chimney interposed between and fitted at its extremities in the seats of the chimney-ring and ventilating ring, substantially as specified. 8th. In a safety-lamp, the combination with a reservoir-cap and a burner-ring supported thereby, of a base-ring seated upon the reservoir-cap around the burner-ring and removably attached to the latter, a chimney-ring spaced from and connected to the base ring and comprising a fixed cap-ring and a holding ring removably fitted and secured in the cap-ring, said holding ring being upwardly removably, a ventilating-ring fitted within the base-ring, means for preventing the downwardly displacement of the ventilating ring, a chimney seated at its lower end upon the ventilating ring and fitting at its upper end in said cap-ring whereby the removable holding ring may be arranged to bear upon the upper end of the chimney and holding the same in its seat on the ventilating ring, and ventilating devices supported upon the chimney-ring, substantially as specified. 9th. In a safety-lamp, the combination with a reservoir-cap and burner-ring supported thereby, of a base-ring seated upon the reservoir-cap around the burner-ring and removably secured to the latter, a ventilating ring seated in the base-ring, a chimney-ring spaced from and connected to the base-ring and comprising a fixed cap-ring and a removable holding ring threaded within the cap-ring, a chimney seated upon the ventilating ring and fitted at its upper end in the cap-ring in the path of said holding ring, whereby when the latter is adjusted downwardly, it engages and secures the chimney in its seat, and ventilating devices supported by the chimney-ring, substantially as specified. 10th. In a safety-lamp, the combination with a reservoir-cap and a burner-ring supported thereby, of a base-ring seated upon the reservoir-cap around the burner-ring and removably secured to the latter, said base-ring having a downwardly tapered or reduced inner periphery, a downwardly tapered or reduced ventilating ring fitted snugly within the inner periphery of the base-ring whereby downward displacement is prevented, a chimney-ring spaced from and connected to the base-ring and comprising a fixed cap-



ring and a removable and adjustable holding ring fitted in the cap-ring, a chimney seated upon the ventilating ring and arranged at its upper end within the cap-ring in the path of said removable and adjustable holding ring, and ventilating devices supporting devices supported by the chimney-ring, substantially as specified. 11th. In a safety-lamp, the combination with a reservoir-cap, and a burner-ring supported thereby, of a base-ring detachably secured to and surrounding the burner-ring, a ventilating ring seated within the base-ring, a chimney-ring spaced from and connected to the base-ring and comprising an outer fixed cap-ring and an inner removable and adjustable holding ring fitted within the cap-ring, said holding-ring being provided in its under side with an annular seat, a glass-chimney seated at its lower end upon the ventilating ring and fitting at its upper end within the cap-ring in the path of said adjustable holding ring, a reticulated chimney fitted at its lower end within the holding ring and provided with a flange arranged in said seat of the holding ring and between the same and the upper end of the glass chimney, and a ventilating cap supported by the cap-ring, substantially as specified. 12th. In a safety-lamp, the combination with a reservoir-cap and a burner-ring supported thereby, of a base-ring removably secured to and surrounding the burner-ring and provided with radial perforations, a ventilating ring seated within the base-ring and comprising upper and lower annular plates, an interposed open frame having lateral slots which communicate with the radial perforations of the base-ring, and a wire-gauze covering arranged upon the inner periphery of the ventilating ring and inserted at its upper and lower edges between the upper and lower annular plates and the said frame, said annular plates being secured to the frame to hold the wire-gauze covering in place, a chimney-ring spaced from and connected to the base-ring and having a removable part or member, a chimney seated at its lower end upon the ventilating ring and at its upper end in the chimney-ring and secured in place by means of the removable part or member of said chimney-ring, and ventilating devices supported by the chimney-ring, substantially as specified. 13th. In a safety-lamp, the combination with a reservoir-cap, a burner-ring carried thereby, a base-ring, a half-thread and lug connection between the base-ring and the burner-ring, a chimney-ring spaced from and connected to the base-ring, a chimney interposed between the planes of the base-ring and chimney-ring, a crown-ring seated upon the chimney-ring, a half-thread and lug connection between the crown-ring and the chimney-ring, a ventilating cap carried by the crown-ring, and a reticulated ventilating chimney carried by the chimney-ring within the chimney-cap, of a swivelled latch carried by the base-ring and chimney-ring and provided at its upper end with an arm to engage registering notches in the chimney-ring and crown-ring and at its lower end with an arm to lie in a groove in the base-ring and engaging an upstanding peripheral flange on the reservoir-cap, a pivotal pawl carried by the base-ring to engage teeth on the reservoir-cap, a web attached to the pawl and arranged in an exterior socket on the base-ring, said socket being provided with a diametrical seat, and a split key to fit in the socket and engage said web, and provided with a transverse shouldered portion to engage the diametrical seat of the socket when the key has been turned sufficiently to disengage the pawl from the teeth, substantially as specified.

No. 47,779. Shirt. (*Chemise.*)



47,779

Arthur E. Fish, Belleville, Ontario, Canada, 24th December, 1894; 6 years.

Claim.—1st. The construction of the bosom of the shirt with the facing attachments as attached to the shirt at the points D, D and E, E, in the manner above described, substantially as and for the purposes hereinbefore set forth. 2nd. The construction of the neck band of the shirt where the collar button goes in at the back of the neck, having an opening at the lower side of one end of the band, which opening is shown by turning back the fly marked C, in the manner described, substantially and for the purposes set forth.

No. 47,780. Nut-lock. (*Arrête-écrou.*)

Fig. 10.

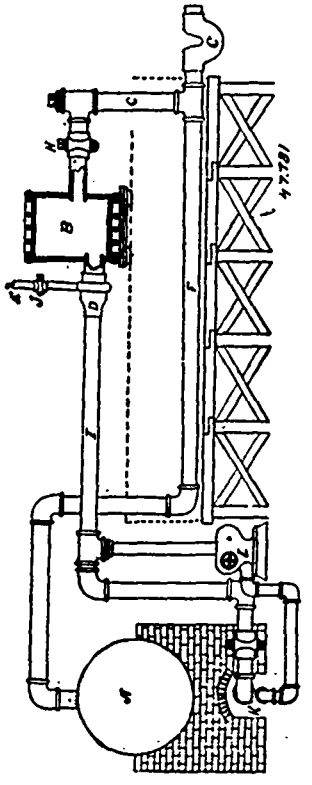
47780

Benjamin F. Sweet, Fond du Lac, Wisconsin, U.S.A., 24th December, 1894; 6 years.

Claim.—1st. A nut-locking washer-plate, consisting of a thin, four sided metallic plate, perforated for receiving a bolt, and having two of its opposite edges parallel, or nearly so, one with the other, and one of the end edges forming acute and obtuse angles with the first named edges, a lip extending along said end and projecting from the face of said plate from its commencing point, at approximately one-third of the distance from the obtuse to the acute angle of said end, said projection having a gradual increase from its commencing point to, or toward the latter angle, and said lip being adapted when in contact with a bolt head or nut, to penetrate said parts and to thereby hold the bolt from turning while screwing down its nut, or to hold the nut from loosening on said bolt, substantially as described. 2nd. A nut-locking washer-plate, consisting of a thin, four sided metallic plate having two of its opposite side edges parallel, or nearly so, one with the other, and the remaining ones, or the end edges of the plate, approximately parallel with each other, but forming acute and obtuse angles with the first named edges, a perforation for receiving a bolt near each of said end edges, a lip extending along the edge of each of said ends and projecting from one face of said plate from its commencing point at approximately, one-third of the distance from the obtuse to the acute angle of said ends, said projection having a gradual increase from its commencing point toward the latter angle, and said lips being adapted when in contact with a bolt head, or nut, to penetrate said parts, and to thereby hold the bolt from turning when screwing down its nut, or to hold the nut from loosening on said bolt, substantially as set forth. 3rd. A nut-locking washer-plate, consisting of a thin, four sided metallic plate, perforated for receiving a bolt and having two of its opposite side edges parallel, or nearly so, one with the other, and the remaining ones, or the end edges, approximately parallel with each other, but forming acute and obtuse angles with the first named edges, a lip extending along one of said end edges and projecting from the face of said plate from its commencing point, at approximately, one-third of the distance from the obtuse to the acute angle of said end, said projection having a gradual increase from its commencing point toward the latter angle, and said lip being adapted when in contact with a bolt head or nut, to penetrate said parts, and to thereby hold the bolt from turning while screwing down its nut, or to hold the nut from loosening on said bolt, and one of the remaining edges having a lip projecting from the opposite face of the plate which is adapted to be forced by the screwing down of the nut, into the material upon which said plate may be placed, and to thereby prevent the plate from turning around the bolt in screwing a nut thereon, substantially as described. 4th. A nut-locking washer-plate, consisting of a thin, four sided metallic plate, perforated for receiving a bolt and having two of its opposite side edges parallel, or nearly so, one with the other, and the remaining ones, or the end edges of the plate, parallel with each other, but forming acute and obtuse angles with the first named edges, a lip extending along one of said edges and projecting from the face of said plate from its commencing point at approximately one-third of the distance from the obtuse to the acute angle of said end, the projection of said lip being gradual from its commencing point toward the latter angle, and said lip being adapted when in contact with a bolt head or nut, to penetrate said parts, and to thereby hold the bolt from turning while screwing down the nut, or to hold the nut from loosening on said bolt, and one of the remaining edges having a lip projecting from the opposite face of the plate, the projection of said lip being gradual from zero at the acute, toward the obtuse angle of said end, and the lip being adapted to be forced by the screwing down of the nut into the material upon which said plate may be placed, and to thereby hold the plate from turning around the bolt in screwing a nut thereon, substantially as set forth. 5th. A nut-locking washer-plate, consisting of a thin, four sided metallic plate, curved downward in the direction of its length intermediate the ends of said plate, having two of its opposite side edges parallel, or nearly so, one with the other, and the remaining ones, or the end edges of the plate, approximately parallel with each other, but forming acute and obtuse angles with the first named edges, a perforation for receiving a bolt near each of said end edges, a lip extending along the edge of each of said ends and projecting from one face of said plate from its commencing point, at approximately one-third of the distance from the obtuse to the acute angle of said ends, the projection of said lips being gradual from their commencing point toward the latter angle, and said lips being adapted when in contact with a bolt head or nut, to penetrate said parts, and to thereby hold the bolt from turning while screwing down its nut, or to hold the nut from loosening on said bolt, substantially as described. 6th. A nut-locking washer-plate, consisting of a thin, four sided metallic plate, curved downward in the direction of its length intermedi-

ate its ends, having two of its opposite side edges parallel, or nearly so, one with the other and the remaining ones, or the end edges of the plate, approximately parallel with each other, but forming acute and obtuse angles with the first named edges, a perforation near each of said end edges for receiving a bolt, and an upward curve between the lowest point in the aforesaid downward curve and each end of the plate whose highest point is at a line passing transversely of said plate through said bolt perforations, a lip extending along the edge of each of said ends and projecting from one face of said plate from its commencing point, at approximately one third of the distance from the obtuse to the acute angle of said ends, the projection of said lips being gradual from their commencing point toward the latter angle, and said lips being adapted when in contact with a bolt head or nut, to penetrate said parts and to thereby hold the bolt from turning while screwing down its nut, substantially as set forth. 7th. A nut-locking washer-plate, consisting of a thin, four sided metallic plate of resilient metal, perforated near each end for receiving a bolt and being concave in the direction of its length intermediate its ends, the circle of said concavity at the opposite side edges of said plate being eccentric, one to the other, and producing thereby a winding surface to said plate, a lip extending along each end and projecting from the concave face of said plate from its commencing point, at approximately one-third of the distance from an obtuse toward an acute angle of said ends, said projection having a gradual increase from its commencing point toward the latter angle, and said lips being adapted when in contact with a bolt head or nut, to penetrate said parts, and to thereby hold the bolt from turning while screwing down the nut, or to hold the nut from loosening on said bolt, substantially as described.

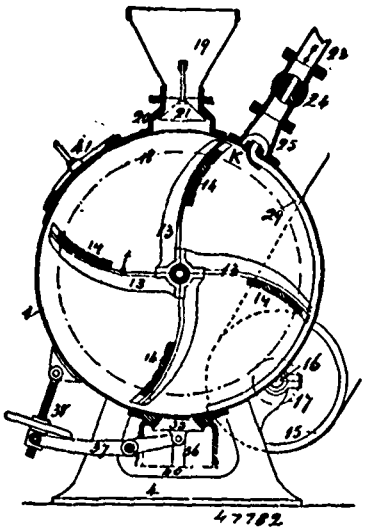
No. 47,781. Apparatus for Separating and Utilising Gas for Heating Purposes. (*Appareil pour séparer et utiliser le gaz pour le chauffage.*)



Martin Jesse Woodward, Petrolia, Ontario, Canada, 24th December, 1894; 6 years.

Claim.—1st. The combination of one or more oil stills and condenser pipes with U-shaped pipe or pipes at the outlet or outlets connected to a receptacle by a pipe and valve as herein specified, and thence connected with a furnace or furnaces by one or more pipes. 2nd. The combination with one or more stills or condenser pipes with U-shaped pipe or pipes at the outlet or outlets connected to a receptacle by a pipe and valve, and thence connected by a pipe or pipes containing a gas sucker as above described, into which steam is conveyed, causing a more rapid flow of gas to the furnace or furnaces as well as moistening same, as herein specified. 3rd. The combination of one or more stills and condenser pipes with U-shaped pipes at the outlet or outlets connected to a receptacle by a pipe and valve, and thence connected with a pipe or pipes containing an exhaust air pump either alone or in combination with the gas sucker as above described to the furnace or furnaces.

No. 47,782. Apparatus for Manufacturing White Lead. (*Appareil pour la fabrication de blanc de plomb.*)

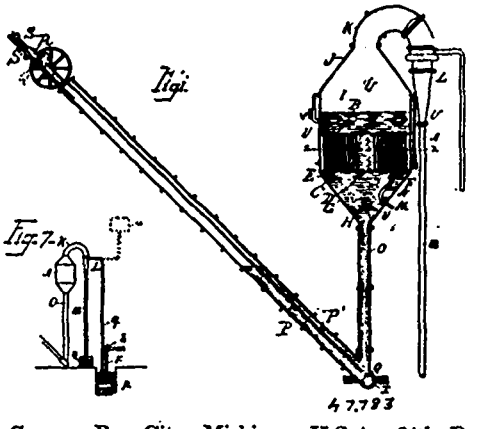


John William Henry James, Westminster, Middlesex, England, 24th December, 1894; 6 years.

Claim.—1st. In apparatus for carbonating lead oxide and for drying the carbonate produced, the combination of a cylinder 1, water inlet cock and ways 26, charging hopper 19 and bell 21, acetic acid cock 22, carbonic acid cock 24, trough 25, and distributing pipes 29, escape cock 31 and valve 32, discharge valve 33 and beaters 13 on the hollow rotating spindle 5 connected to a steam pipe, substantially as set forth. 2nd. In apparatus for carbonating lead oxide and for drying the carbonate produced the combination of stove *a*, movable trolleys B, and drying frames H, substantially as set forth.

No. 47,783. Salt Evaporator.

(*Appareil évaporatoire pour le sel.*)



Thomas Craney, Bay City, Michigan, U.S.A., 24th December, 1894; 6 years.

Claim.—The combination with the casing A, of the escape pipe leading from the top thereof, the condenser L into the top of which the pipe enters, the vertical discharge pipe *m* leading from the bottom of the condenser, a water seal at the lower end of the discharge pipe, an unbroken or continuous supply pipe *q* leading into the top of the condenser, its lower end extending down to a point near the base of the apparatus and located in a suitable water supply, and a pump at or near the lower end of the supply pipe for forcing the water through the same, substantially as described.

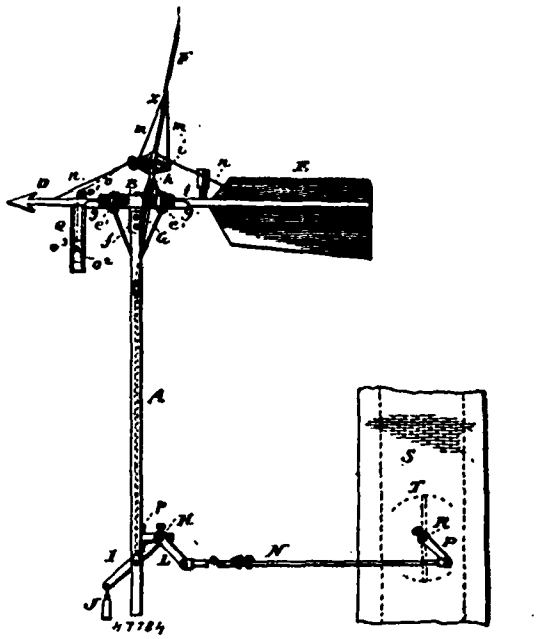
No. 47,784. Draft Regulator for Brick Kilns.

(*Régulateur du tirage pour fours à brique.*)

Carl Frederic Kaul, Madison, Nebraska, U.S.A., 24th December, 1894; 6 years.

Claim.—1st. In a draft regulator, the combination, with a frame, of a turn-plate, a vane carried by said turn-plate, a fan pivotally mounted on said turn-plate, a horizontal shaft in bearings carried by said frame, a weighted arm extending from said shaft, a rod connecting said fan with said weighted arm, and mechanism

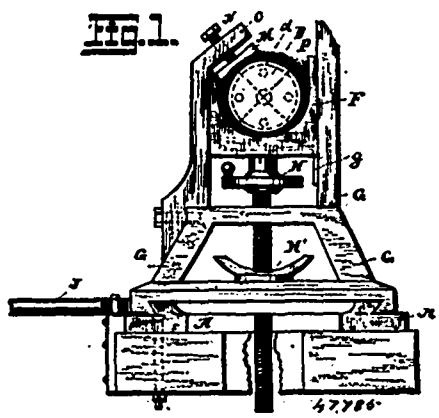
connecting said shaft with a damper in a flue, through which mechanism said damper may be operated, substantially as and for the purposes described. 2nd. The combination with a pivoted fan having a laterally rotative movement, of a rod, connecting said fan with



operating mechanism, said rod being provided with a swivel joint formed of two flanged, perforated plates, constructed to lay one on another as shown and having notches in their edges, one section of the rod having prongs and the other section being provided with a head, substantially as shown and described. 3rd. In a draft regulator, the combination with a vane, of a pivoted fan having a swinging movement forward and rearward, a cushion in position for contact with said fan, said cushion being formed of a fixed vertical tube, a spring placed therein, a tubular cap resting on said spring and adapted to move on said fixed tube, and a rod, fixed to said cap and extending downward through said fixed tube, substantially as set forth and described. 4th. The combination with a frame, of a flanged turn-plate having a central opening, a circular, flanged plate having a central opening, a series of rollers supporting said turn-plate, a vane in two parts, secured to said turn-plate, at opposite points, a fan secured to said shaft, an arm j, connected with said fan, a governing weight o^2 connected by a chain with arm j, and a rod connecting said fan with operating mechanism, substantially as set forth and described.

No. 47,785. Attachment for Lathes.

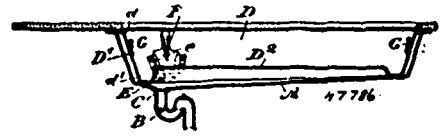
(*Attache pour tours.*)



Frank Sales Rechtsteiner, Dayton, Ohio, U.S.A., 24th December, 1894; 6 years.

Claim.—1st. In an attachment to lathes, a trough, having removable extension, consisting of a longitudinal plate, attached thereto, in combination with supporting pieces, having adjusting screws, and a lever whereby the trough may be moved back and forth, in a longitudinal direction, substantially as herein shown and described. 2nd. An attachment for lathes consisting of a trough adapted to hold abrasive substance, and be adjusted both vertically and laterally beneath a rotated column of stones secured between the centres of a lathe, substantially as described. 3rd. The trough F, provided with the extension O, and the adjustable grinding plate M, said trough adapted to hold a loose abrading material, and be subjected to a vertical and lateral adjustment, as herein described. 4th. The combination with the table G, of a trough provided with the longitudinal ribs f, and adapted to hold a loose abrading material that may be kept in close proximity to a rotating column of stone by means for adjusting said trough both laterally and vertically, and the longitudinal grinding plate M, by means of which the area of abrading surface may be increased or diminished, substantially as herein described.

No. 47,786. Sink. (*Evier.*)



Joseph Moses, Toronto, Ontario, Canada, 24th December, 1894; 6 years.

Claim.—1st. As a new article of manufacture, a removable sink lining of sheet metal having a trough formed around the bottom of the sides and a raised bottom situated within the trough, as and for the purpose specified. 2nd. As a new article of manufacture, a removable sink lining of sheet metal having a trough formed around the bottom of the sides and raised bottom situated within the trough and end handles secured to the ends, as and for the purpose specified. 3rd. In combination with the cast-iron waste water sink, of a removable lining, the sides of which have a bead around the tops to separate them from the sides of the sink, a trough formed around the bottom within the sides, a raised central portion or bottom and a series of perforations made in the side at one end extending into the bottom of the trough and means for covering such perforations, as and for the purpose specified. 4th. In combination with the cast-iron waste water sink, of a removable lining, the sides of which have a bead around the tops to separate them from the sides of the sink, a trough formed around the bottom within the sides, a raised central portion or bottom and a series of perforations made in the side at one end and extending into the bottom of the trough and guiding ribs e, and a shovel designed to fit within the ribs, so as to cover the perforations and when removed to clean out the trough, as and for the purpose specified.

No. 47,787. Cess-pool Cleaner.

(*Pince recourbée pour déglacer les puisards.*)

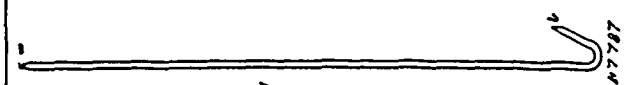


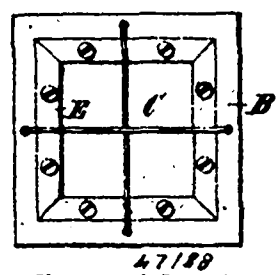
Fig 1

Lazare Pagé, Montréal, Québec, Canada, 24 décembre, 1894; 6 ans

Résumé.—Une barre de fer ou d'acier ayant un de ses bouts recourbé en forme de crochet, une des extrémités a de la barre étant taillée en forme de ciseau, et l'autre extrémité étant terminée par une pointe en forme de cône ou de pyramide, le tout tel que décrit et pour les fins indiquées.

No. 47,788. Apparatus for the Treatment of Chemical Compounds by Electricity. (*Traitement de composés chimiques par l'électricité.*)

FIG 5.



Paul Corbin, Lancey, France, 24th December, 1894; 6 years.

Résumé.—1°. Les dispositions permettant de supprimer toutes les fuites et pertes d'électricité, consistant à entourer chaque électrodes d'un cadre en matière isolante appropriée au liquide du bain et à grands bords, dont la largeur est déterminée de façon à annuler les

pertes latérales de courant, en créant une résistance sur le pourtour de la plaque en vue de contraindre le courant à ne pas s'échapper par les bords de la plaque et dès lors à suivre le chemin de moindre résistance, c'est-à-dire, à traverser la plaque. 2°. Les dispositions des cadres électrodes entièrement noyés dans le bain ou le débordant légèrement et simplement maintenus à écartement fixé au moyen de plaques cannelées ou de barres cannelées fixées de chaque côté dans les parois de la cuve, de façon que ces cadres puissent s'enlever et se remettre avec la plus grande facilité indépendamment les uns des autres, les dits cadres étant formés par une matière non conductrice appropriée à la nature du bain, et maintenant, comme je l'ai expliqué plus haut, les feuilles métalliques conductrices, formant les électrodes proprement dites. 3°. Les dispositions de deux prises de courant formées par une plaque épaisse, conductrice, de même métal que les électrodes ou d'une autre matière également conductrice, recouverte d'une feuille mince de métal formant l'électrode et de mêmes dimensions et forme que les dites électrodes placée exactement en face d'elles à l'intérieur de la cuve contre une fenêtre pratiquée dans la paroi permettant de soustraire à l'action de l'électrolyte, l'arrivée de courant et les organes de serrage de la plaque épaisse contre la paroi avec laquelle elle doit former joint attaché à l'électrolyte. 4°. La subdivision du bac en plusieures compartiments étanches à l'électrolyte en vue d'éviter, comme je l'ai dit plus haut, les parties latérales d'électricité, pour un certain nombre d'électrodes afin de ne pas donner aux cadres de ces électrodes des dimensions exagérées.

No. 47,789. Method of and Apparatus for Subaqueous Mining. (*Méthode et appareil pour miner.*)

Alexander McDougall, Duluth, Minnesota, U.S.A., 26th December, 1894; 6 years.

Claim.—1st. The method of mining gold and other metals contained in mineral bearing sand and gravel forming part of lake and river bottoms, which consists in removing by the action of rake-teeth such coarse rocks and other obstructions as are not removable by suction, and then in removing the mineral bearing sand or gravel thus freed from obstruction by suction, substantially as set forth. 2nd. In an apparatus of the character described, the combination of a floating vessel A, having its sides inclined from bow to stern, the arms C, pivoted to said sides and converging towards each other at the rear end, and a rake B, carried by said arms in the rear of the vessel and capable of vertical movement, substantially as set forth. 3rd. The method of mining gold or other metals contained in mineral bearing sand and gravel forming part of lake and river bottoms, which consists in subjecting the bottoms to the scraping action of rake-teeth, whereby the said bottoms will be loosened and the mineral bearing sand will be freed therefrom and be removable by suction, and then in removing by suction the mineral bearing sand, substantially as set forth. 4th. In an apparatus of the character described, the combination of a floating vessel, a rake carried by said vessel and capable of vertical movement, a windlass mounted on said vessel, and a stationary cable G, anchored at one or both

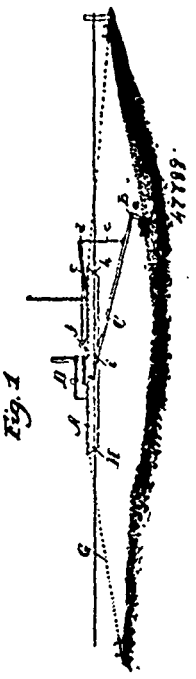


Fig. 1

ends with which said windlass engages for the purpose of propelling the vessel, substantially as set forth. 5th. In an apparatus of the character described, the combination of a floating vessel A, an arm C, pivoted to each side of said vessel, and a rake B, carried by said arms and capable of vertical movement, substantially as set forth. 6th. In an apparatus of the character described, the combination of a floating vessel A, having its sides inclined from bow to stern, the arms C, pivoted to said sides and converging towards each other at the rear end, and a rake B, carried by said arms and capable of vertical movement, substantially as set forth.

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

3753. JOSEPH MERRILL DUNHAM and JOHN McKEMMIE, 2nd five years of Patent No. 32,960, from the 2nd day of December, 1889. Drawing Roll for Drawing Heads and Spinning Frames, 1st December, 1894.

3754. JOHN LAIDLAW, 2nd five years of Patent No. 32,969, from the 2nd day of December, 1889. Centrifugal Machine for Separating Cream from Milk, 1st December, 1894.

3755. THE WILLIAM N. WHITNEY COMPANY, 2nd five years of Patent No. 32,983, from the 2nd day of December, 1889. Grain Harvesting and Binding Machine, 3rd December, 1894.

3756. GILBERT W. GANONG, 2nd five years of Patent No. 33,108, from the 11th day of December, 1889. Mode of Marking Confectionaries and Apparatus therefor, 3rd December, 1894.

3757. WILLIAM SMITH, 2nd five years of Patent No. 33,118, from the 12th day of December, 1889. Car for the Conveyance of Ships on Ship Railways, 3rd December, 1884.

3758. JAMES GIBBONS, 2nd five years of Patent No. 33,016, from the 4th day of December, 1889. Burner, 3rd December, 1884.

3759. JAMES GIBBONS, 2nd five years of Patent No. 33,036, from the 4th day of December, 1889. Gas stove, 3rd December, 1894.

3760. JOHN WESLEY HYATT, 2nd five years of Patent No. 33,047, from the 5th day of December, 1889. Process of Cleaning Granular Filter Beds, 3rd December, 1894.

3761. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent No. 33,063, from the 6th day of December, 1889. Suspended Switch and Travelling Contact Device for Electric Railways, 4th December, 1894.

3762. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent No. 33,064, from the 6th day of December, 1889. Switch for Overhead Conductors, 4th December, 1894.

3763. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent No. 33,065, from the 6th day of December, 1889. Arched Suspender for Overhead Electric Conductors, 4th December, 1894.

3764. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent No. 33,066, from the 6th day of December, 1889. Constant Upward Pressure Contact for Overhead Conductors, 4th December, 1894.

3765. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent No. 33,067, from the 6th day of December, 1889. Duplex Upward Pressure Contact, 4th December, 1894.

3766. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent No. 33,068, from the 6th day of December, 1889. System of Suspending Electric Conductors, 4th December, 1894.

3767. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent No. 33,069, from the 6th day of December, 1889. Hooked Suspender for Electric Railway Conductors, 4th December, 1894.

3768. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent No. 33,070, from the 6th day of December, 1889. Suspension Device for Electric Railway Conductors, 4th December, 1894.

3769. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent No. 33,194, from the 20th day of December, 1889. Standard Contact Arm, 4th December, 1894.

3770. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent No. 33,195, from the 20th day of December, 1889. Extensible Upward Pressure Contact Arm, 4th December, 1894.

3771. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent No. 33,196, from the 20th day of December, 1889. Contact Arm for Electric Railway Motor Cars, 4th December, 1894.

3772. THE CANADIAN GENERAL ELECTRIC COMPANY, 2nd five years of Patent, No. 33,234, from the 24th day of December, 1889. Electric Railway, 4th December, 1894.

3773. THE UNITED INDURATED FIBRE COMPANY, (assignee), 3rd five years of Patent No. 20,737, from the 15th day of December, 1884. Machine for Forming Hollow Ware from Fibre Pulp, 6th December, 1894.

3774. THE DOMINION ICE COMPANY, (assignee), 2nd five years of Patent No. 33,084, from the 7th day of December, 1889. Devi[illegible] for the Manufacture of Pure Ice, 6th December, 1894.

3775. FREDERICK C. AUSTIN, 2nd five years of Patent No. 33,190, from the 19th day of December, 1889. Grading and Ditching Machine, 7th December, 1894.

3776. GEORGE FREDERICK MILLIKEN, 2nd five years of Patent No. 33,569, from the 4th day of February, 1890. Electric Signalling Apparatus, 7th December, 1894.

3777. FREDERICK S. McKAY, 2nd five years of Patent No. 37,521, from the 2nd day of October, 1891. Clothes line, 10th December, 1894.

3778. CARL LÜHRIG, 2nd five years of Patent No. 33,104, from the 11th day of December, 1889. Coal Washing and Cleaning Machine, 10th December, 1894.

3779. BERNARD CHARLES MOLLOY, 3rd five years of Patent No. 20,795, from the 26th day of December, 1894. Improvements in Amalgamating Gold and Silver Metals and in Apparatus Employed therein, 10th December, 1894.

3780. THOMAS JOHN REID, 2nd five years of Patent No. 33,228, from the 24th day of December, 1889. Vehicle Hubs, 10th December, 1894.

3781. EDWARD HENRY ENGLISH, 2nd five years of Patent No. 33,136, from the 14th day of December, 1889. Iron Ladder, 11th December, 1894.

3782. JOHN HERBY and MILS HARRIS, 2nd five years of Patent No. 33,149, from the 16th day of December, 1894. Farm Wagon, 14th December, 1894.

3783. STILLMAN WILLIAMS ROBINSON, 2nd five years of Patent No. 33,202, from the 20th day of December, 1889. Nailing Machine for Boots and Shoes, 14th December, 1894.

3784. FREDERICK J. TOWNSEND, 2nd five years of Patent No. 33,205, from the 20th day of December, 1889. Wire Stretcher, 15th December, 1894.

3785. CHARLES LOUIS GOEHRING, 2nd five years of Patent No. 33,240, from the 20th day of December, 1889. Moulding Machine, 15th December, 1894.

3786. CHARLES LOUIS GOEHRING, 2nd five years of Patent No. 33,427, from the 18th day of January, 1890. The Art of Producing Figures on the Surface of Wood or other Material, 15th December, 1894.

3787. ROBERT CLARK, 2nd five years of Patent No. 33,165, from the 18th day of December, 1889. Air Grate Furnace, 17th December, 1894.

3788. EDWARD T. POTTER, 2nd five years of Patent No. 33,271, from the 2nd day of January, 1890. Magic Lantern, 17th December, 1894.

3789. PATRICK H. GRIFFIN, 2nd five years of Patent No. 33,474, from the 22nd day of December, 1890. Machine for Grinding the Threads and Flanges of Car Wheels, 18th December, 1894.

3790. GUILLAUME BOIVIN, 2nd five years of Patent No. 33,401, from the 14th day of January, 1890. Improvements in Making Shoes, 18th December, 1894.

3791. THE ELECTRIC STORAGE BATTERY COMPANY, 2nd five years, of Patent No. 33,376, from the 9th day of January 1890. Secondary or Storage Battery, 20th December, 1894.

3792. ADOLPH WAHLIN, 2nd five years of Patent No. 33,217, from the 21st day of December, 1889. Centrifugal Butter Extractor, 20th December, 1894.

3793. CHARLES A. ELLISON, *2nd five years of Patent No.* 33,226, from the 21st day of December 1889. Two-wheeled Vehicle, 20th December, 1894.

3794. HEINRICH AUGUST ZOELLUER, 2nd five years of Patent No. 33,229, from the 24th day of December, 1889. Composition for Pills, 24th December, 1894.

3795. FREDERICK C. AUSTIN, 2nd five years of Patent No. 33,265, from the 2nd day of January, 1890. Grading and Ditching Machine, 22nd December, 1894.

3796. THEODORE MARTIN, 2nd five years of Patent No. 33,336, from the 3rd day of January, 1890. Combined Latch and Lock, 26th December, 1894.

3797. CUMMINGS CHERRY, 3rd five years of Patent No. 20,895, from the 16th day of January, 1885. Process and Apparatus for Treating Metalliferous Ores, 26th December, 1894.

3798. JOHN THOMAS DWYER, 2nd five years of Patent No. 33,253, from the 30th day of December, 1889. Combined Knapsack and Shoulder Strap Bag, 27th December, 1894.

3799. PAUL ODON LAFFITTE, 2nd five years of Patent No. 33,278, from the 2nd day of January, 1890. Cylinder Printing Machine, 27th December, 1894.

3800. HEATON PENINSULAR BUTTON FASTENER CO., (assignee) 3rd five years of Patent No. 21,119, from the 19th day of February, 1885. Setting Instrument for Attaching Buttons to Leather, etc., 27th December, 1894.

3801. THOMAS STEWART QUINCEY, 2nd five years of *Patent No. 33,312, from the 2nd day of January,* 1890. Receipt Blank, 27th December, 1894.

3802. CHARLES F. A. EDDY, 2nd five years of Patent No. 33,276, from the 2nd day of January, 1890. Egg Carrier, 21st December, 1894.

3803. CHARLES HENRY GRAMBS, 2nd five years of Patent No. 33,319, from the 2nd day of January, 1890. Car-Couplings, 21st December, 1894.

3804. CLARK WRIGHT EVANS, 2nd five years of Patent No. 33,295, from the 2nd day of January, 1890 Metal Band for Boxes, 31st December, 1894.

TRADE-MARKS

Registered during the month of December, 1894, at the Department of Agriculture—Copyright and Trade-Mark Branch.

5114 HAMILTON AND TORONTO SEWER PIPE COMPANY, LIMITED, Hamilton, Ont. Sewer-Pipe and Sewer-Pipe Fittings, 1st December, 1894.

5115. THE JAMES MORRISON BRASS MANUFACTURING COMPANY, LIMITED, Toronto, Ont. Plumbers Supplies, 3rd December, 1894.

5116. THE SALT UNION, LIMITED, 16 Eastcheap, London, E. C., England. Salt, 4th December, 1894.

5117. ARTHUR CLARKE, 2 Gresham Buildings, London, England, trading as A. G. WILSON & COMPANY. Whiskey, 4th December, 1894.

5118.
5119.
5120. } THE DISTILLERS' COMPANY, LIMITED, 12 Torphichen Street, Edinburgh, Scotland. Whiskey, 4th December, 1894.

5121. THE PHOENIX GLASS COMPANY, Monaca, Pennsylvania, U.S.A. Hollow Glassware, 7th December, 1894.

5122. A. J. LAURENCE, Montréal, Québec. Vin Tonique, 7 décembre, 1894.

5123. JOSHUA W. WINDSOR, Montreal, Quebec. General Trade-Mark, 10th December, 1894.

5124. JOSEPH MIZAEL FORTIER, Montreal, Quebec. Cigarettes, 10th December, 1894.

5125. THE STERLING REMEDY COMPANY, Chicago, Illinois, U.S.A. A Medicine for the Cure of the Tobacco Habit, 10th December, 1894.

5126. THE BRAINERD AND ARMSTRONG COMPANY, 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, 12th December, 1894.

5127. W. A. BRADSHAW AND COMPANY, Toronto, Ontario. Laundry Soap, 12th December, 1894.

5128. THE IMPERIAL WRITING-MACHINE COMPANY, LIMITED, Montreal, Quebec. Writing-Machines, Type-writers and the like, 13th December, 1894.

5129.
5130. } APPLETON, MACHIN & SMILES, 165 Fenchurch Street, London, England. General Trade-Marks, 13th December, 1894.

5131. JOHN MACDONALD, PAUL CAMPBELL AND JAMES FRASER MACDONALD, Toronto, Ont., trading as JOHN MACDONALD & COMPANY. *General Trade-Mark, 15th December, 1894.*

5132. JONES BROTHERS AND COMPANY, 12 York Street, Manchester, England. Dusters and Polishing Cloths, 18th December, 1894.

5133. HENRY L. PIERCE, Boston, Mass., U.S.A., trading as JOSIAH WEBB & COMPANY. Manufactured Chocolate, 19th December, 1894.

5134. EDWIN D. TILLSON, Tilsonburg, Ont. Flour, 19th December, 1894.

5135. SAMUEL JOHN RUTHERFORD, Toronto, Ont. Sixteen-Ounce Picture Glass, 21st December, 1894.

5136. ROBERT SCOTT, Alliston, Ont. Eggs, 24th December, 1894.

5137. STEPHEN TOGHILL BRITTEN & ISAAC DAWSON BRADSHAW, Toronto, Ont., trading as BRITTEN & BRADSHAW. Chewing Gum, 26th December, 1894.

5138. THE CANADIAN OIL COMPANY, Sarnia, Ont. New Oils for use in woollen and other manufacturing industries, 26th December, 1894.

5139. HENRI BOISSELIER, The Shrubbery, Enfield, Middlesex, England. Cocoa and Cocoa Extracts, 27th December, 1894.

5140. H. W. JOHNS MANUFACTURING COMPANY, New York, N. Y., U.S.A. Roofing, Gaskets, Insulating and Non-conducting Materials, embodying Asbestos, 27th December, 1894.

5141. CECIL FRENCH, Montreal, Quebec. Veterinary Medicine, 29th December, 1894.

5142. SAMUEL CABOT, Brookline, Mass., U.S.A. Builders' Filling and Sheathing, 29th December, 1894.

5143. SEYMOUR GIBSON DETCHON, Toronto, Ont. Patent Medicine, 29th December, 1894.

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7658. THE CANADIAN GROCER, FALL TRADE NUMBER, 1894, together with a COLOURED LITHOGRAPH called GOLLY, on one of the covers. The J. B. McLean Publishing Co., Ld., Toronto, Ont., 3rd December, 1894.

7659. WHIST SCORE CARD. Alfred Ernest Morson, Toronto, Ont., 3rd December, 1894.

7660. COOPER'S NEW COMBINATION 18 YARD WOOLLEN CARDING AND SPINNING CALCULATIONS. Francis R. Cooper, Montmorency Falls, Que., 3rd December, 1894.

7661. 8000 YEAR CALENDAR. Compiled by Michael Delahanty, Montreal, Que., 4th December, 1894.

7662. THE STAR ALMANACK AND CANADIAN YEAR-BOOK 1895. Hugh Graham, Montreal, Que., 5th December, 1894.

7663. LITHOGRAPH REPRESENTING AN ELDERLY AND A YOUNG GENTLEMAN IN EVENING DRESS STANDING BESIDE A TABLE GLASS AND BOTTLE IN HAND DEGUSTING LABATT'S ALE. John Labatt, London, Ont., 6th December, 1894.

7664. CLEMENT'S CALENDAR COOK BOOK FOR 1895. Frank Lawson & Henry J. Jones, London, Ont., 6th December, 1894.

7665. THE BELL TELEPHONE COMPANY OF CANADA, LIMITED, WESTERN EXCHANGES, SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, DECEMBER, 1894. The Bell Telephone Company of Canada, Limited, Montreal, Que., 6th December, 1894.

7666. STATELY GRACE. Minuet for Piano, by J. Lewis Browne. Whaley, Royce & Co., Toronto, Ont., 6th December, 1894.

7667. THE VOGUE. Gavotte for Piano, by Julian Lavery. Whaley, Royce & Co., Toronto, Ont, 6th December, 1894.

7668. PLAN OF THE TOWNSHIP OF SANDWICH WEST, SECTION A, by Geo. McPhillips, D.L.S., Windsor, Ont., 6th December, 1894.

7669. THE SHOEMAKER. (Photo.) John Augustus Gibbons, Toronto, Ont., 7th December, 1894.

7670. DO YOU OWN YOUR HOME? (Book.) The Birkbeck Investment Security and Savings Co., Toronto, Ont., 7th December, 1894.

7671. LITTLE ALABAMA COON. Words and Music by Hattie Starr. Willis Woodward & Co., New York, N.Y., U.S.A., 7th December, 1894.

7672. WAGHORN'S GUIDE TO MANITOBA AND THE NORTH-WEST. November, 1894. James Rawlinson Waghorn, Winnipeg, Man., 7th December, 1894.

7673. TOBACCO TALK. By An Old Smoker. The Nicot Publishing Co., Philadelphia, Penn., U.S.A., 10th December, 1894.

7674. MY SWEETHEART ELOISE. Song. Words and Music by Eloise A. Skimmings. Willimott H. Billing, Toronto, Ont., 11th December, 1894.

7675. AT LAST. (Book.) By Mrs. Maria Elise Lauder, Toronto, Ont., 11th December, 1894.

7676. THE GIFT. Words by F. E. Weatherly. Music by A. H. Behrend. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 12th December, 1894.

7677. LA DÉVOTION À SAINT ANTOINE DE PADOUE, par l'Abbé E. De Lamarre, S.T.D., Chicoutimi, Qué., 12 décembre, 1894.

7678. THE CANADIAN ANNUAL 1895. The Sheppard Publishing Co., Ld., Toronto, Ont., 13th December, 1894.

7679. THE HOUSEHOLD GUIDE or DOMESTIC CYCLOPEDIA. By Prof. B. G. Jefferis, M.D., and J. L. Nicholls, A.M. John Adam Hertel, Toronto, Ont., 13th December, 1894.

7680. THE DE BRISAY ANALYTICAL LATIN METHOD. PART II. By C. T. De Brisay, B.A., Toronto, Ont., 14th December, 1894.

7681. I DO OBJECT TO THAT! Humorous Song. Words and Music by Gilbert King. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 15th December, 1894.

7682. HADDO. Military Schottische. By M. Lineger. J. L. Orme & Son, Ottawa, Ont., 15th December, 1894.

7683. TWO SONGS. No. 1. An Old Love Song. No. 2. Wanderer's Night Song. (Translated from Goethe). Words and Music by Ernest Whyte. J. L. Orme & Son, Ottawa, Ont., 15th December, 1894.

7684. MY FAIREST STAR. Song. Words by Herbert D. Hulme. Music by W. Daunt Scott. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 17th December, 1894.

7685. PEARLS AND PEBBLES or NOTES OF AN OLD NATURALIST. By Catharine Parr Traill. WITH BIOGRAPHICAL SKETCH. By Mary Agnes Fitzgibbon. William Briggs (Book Steward of the Methodist Book and Publishing House), Toronto, Ont., 17th December, 1894.

7686. LIFE AND TIMES OF MAJOR-GENERAL SIR ISAAC BROCK, K.B. By D. B. Read, Q.C., Toronto, Ont., 17th December, 1894.

7687. THE METHODIST CHURCH CALENDAR, 1895, BINBROOK CIRCUIT. Henry Gilbert Livingston, Binbrook, Ont., 19th December, 1894.

7688. THE ELITE DIRECTORY AND CLUB LIST OF TORONTO, 1894-95. James Bain & Son, Toronto, Ont., 19th December, 1894.

7689. WE WERE SWEETHEARTS IN THOSE HAPPY DAYS OF YORE. Words and Music by Wilfred Charles Traher, London, Ont., 19th December, 1894.

7690. THE ONTARIO LEGAL CHART, 1895. Henry Ryerson Hardy, Toronto, Ont., 19th December, 1894.

7691. HISTORY OF THE STEAMSHIP "BEAVER." Compiled by Charles Wesley McCain, Vancouver, B.C., 20th December, 1894.

7692. MIDLAND REGATTA SCHOTTISCHE. For Piano. By Campbell Shaw, Midland, Ont., 21st December, 1894.

7693. SNOW FLOWERS WALTZ. For Piano. By Ketha A. Pickett. Whaley, Royce & Co., Toronto, Ont., 22nd December, 1894.

7694. WAYSIDE ECHOES. Poems. By Sophia Victoria Gilbert, Hillsdale, Ont., 24th December, 1894.

7695. LOVE'S A BOTHER. Waltz Song. By Wilhelm Daunt. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 24th December, 1894.

7696. SINKS THE SUN IN SOLEMN SPLENDOUR. Sacred Song. Music by R. S. Ambrose. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 24th December, 1894.

7697. CARTER'S NEW TABLE OF CALCULATIONS, giving the waist widths and width of darts for any size bust and waist measure for Ladies and Children. James Carter, Toronto, Ont., 28th December, 1894.

7698. PETERSEN'S UNIVERSAL CHURCH CALENDAR AND DIRECTORY. Adolph Petersen, St. John, N.B., 28th December, 1894.

7699. EXERCISES IN ARITHMETIC. For Junior Classes of Public Schools. Part I, by W. A. Cuthbert. The Copp, Clark Co., Ld., Toronto, Ont., 29th December, 1894.

7700. EXERCISES IN ARITHMETIC. For Senior Classes of Public Schools. Part II, by W. N. Cuthbert. The Copp, Clark Co., Ld., Toronto, Ont., 29th December, 1894.

7701. NOTES AND VOCABULARY, by W. H. Van der Smissen, M. A. to TRÄUMEREIEN. The Copp, Clark Co., Ld., Toronto, Ont., 29th December, 1894.

7702. THE WATCH ADJUSTER'S MANUAL, by Charles Edgar Fritts, Onconta, N.Y., U.S.A., 31st December, 1894.

7703. MAPS OF THE PROVINCES OF ONTARIO, QUEBEC, NEW BRUNSWICK, NOVA SCOTIA AND PRINCE EDWARD ISLAND AND THE ISLAND OF NEWFOUNDLAND, ALSO INDEX MAP OF MANITOBA, NORTH-WEST TERRITORIES AND BRITISH COLUMBIA. Charles Edward Goad, Montreal, Que., 31st December, 1894.

7704. THE BRITISH COLUMBIA ANNUAL 1895. The Sheppard Publishing Co., Ld., Toronto, Ont., 31st December, 1894.

7705. EXERCISES ORTHOGRAPHIQUES. (Corrigé) par Napoléon Lacasse. J. A. Langlais et fils, Québec, Qué., 31 décembre, 1894.

7706. HISTORY OF BRITISH COLUMBIA from its Earliest Discovery to the Present Time. Illustrated, by Alexander Begg, C.C., F.R.C.I, Orillia, Ont., 31st December, 1894.

INDEX OF INVENTIONS.

Sewing machine. James T. Hogan... 47,758
Sewing machine. Scott Shoe Machinery Co... 47,717
Sewing machine take-up. Scott Shoe Machinery Co... 47,718
Shears for sheep. Walter N. Noakes, et al... 47,733
Shirt. Arthur E. Fish... 47,779
Shoe for draft animals. John Joseph Malone... 47,685, 47,686, 47,687
Shuttle for looms. John Bannister... 47,612
Signalling-treadle for railway. John George Dixon... 47,610
Signal telegraphy. Claudius V. Boughton... 47,613
Sink. Joseph Moses... 47,786
Snap hook. Thomas Lacey, et al... 47,577
Sole rounding machine. The Globe Buffer Company... 47,574
Solutions. Electric treatment of. Paul Corbin... 47,788
Spark arrester. Albert F. Murchie... 47,674
Spark arrester. George H. Shoemaker... 47,646
Spinning-machine. Edmund K. Baker... 47,767
Spring. Charles Scott... 47,708
Spring for carts, W. H. and A. W. Robinson... 47,599
Stay for fence wire. David H. Royer... 47,759
Step-ladder, ironing-board, wash-bench and truck combined. Herbert G. Rounds... 47,672
Stone crusher. Cornelius Kimpler... 47,647
Stone crusher. The Gates Iron Works... 47,651, 47,652
Stone crusher. The Gates Iron Works... 47,670
Stoves. Heating attachment for. Joseph Guy... 47,701
Street sweeper. John C. Slawson... 47,628
Stretcher: see Garment stretcher.
Stump extractor. Michael Alexander Kennedy... 47,766
Sulky. George William Clarke, et al... 47,575
Sulphate of alumina. Process of making porous. John Enequist... 47,746
Sulphur or sulphurous products from distilled petroleum. Art or process of separating. Olof Johnson, et al... 47,730
Switch for railways. William Charles Dillwan... 47,653, 47,654
Switch operating device. Oscar Beaudry, et al... 47,684
Tanning. Christian Heinzerling... 47,629
Telegraphy: see Signal.
Threshing-machine. David N. Long... 47,624
Threshing-machine. Riley and Ira Knight... 47,578
Tobacco knife and press combined. Adjutor Menard... 47,592
Tobacco-stemming machine. Samuel Reid... 47,726
Track cleaner. Alfred Ewart Trevithick... 47,600
Tunnel. James Jordan Ebert, et al... 47,562
Type-writer attachment. Newton Walker Hartwell... 47,744
Universal joint. Charles M. Stone... 47,750
Upholstering device. Alfred Freschl... 47,662
Valve for air-brakes. Henry Lawrence Howe... 47,587, 47,588, 47,589
Vapour engine. Ralph Benton Hain... 47,732
Vehicles. Runner attachment for wheeled. Walter John Le Barron... 47,625
Vehicle-wheel. Jesse Roseboom... 47,749
Velocipede. George B. H. Austin... 47,747
Velocipedes and the like. Gear-chain for. John Boyd Dunlop... 47,748
Velocipedes. Crank-shaft for. Pope Manufacturing Co'y... 47,618, 47,619
Vending machine. George Harper Bowie, et al... 47,596
Water tower. Ernst Frederic Steck... 47,668
Water-wheel. Calixte Ethier... 47,764
Water-wheel. Ovide Parent, et al... 47,676
Wheel: see Vehicle-wheel.
Wheel for vehicles. Emilius Christian Ferdinand Becker. 47,707
Whiffletree. Edward J. Smith... 47,666
White lead. Machine for making. John W. H. James... 47,782
Window. Edward Jacob Fellman, et al... 47,660
Window. William Farquhar... 47,657
Window screen. Charles W. Rodecker... 47,602
Window shade hanger. John A. Thompson... 47,616
Wire-chain. Friend W. Smith... 47,737
Wire. Machine for covering. Franklin S. Randall... 47,743
Wire. Manufacture of. Richard David Sanders... 47,581
Wire ties. Machine for making. Ovide Lamothe... 47,768
Wood-cutting machine. William Merrill... 47,777
Yarn-dying machine. John George Haslam... 47,634

INDEX OF PATENTEES.

Globe Buffer Coy. Sole rounding machine..... 47,574
Good, William E. Pump..... 47,669
Gormley, Frank, et al. Brake..... 47,696
Gourdeau, Francis. Saddlery holder..... 47,591
Grady, Michael John, et al. Car-coupler..... 47,641
Gravier, Alphonse T. Dynamo..... 47,632
Grenier, Joseph Arthur, et al. Water-wheel..... 47,676
Gay, Joseph. Heating attachment for stoves..... 47,701
Hain, Ralph Burton. Vapour engine..... 47,732
Hanna, Elmer Elsworth, et al. Crusher..... 47,670
Harkness, Summer J. Car replacer..... 47,583
Hartwig, Charles Hugo. Brow band for bridles..... 47,639
Hartwell, Newton Walker. Type-writer attachment..... 47,744
Haskin, Samuel E. Brick-making machine..... 47,770
Hoskham, John George. Yarn-dyeing machine..... 47,634
Haswell, George T. Chair..... 47,659
Hayden, Henry Arthur, et al. Bottle..... 47,656
Hays, Samuel J. Process of and apparatus for generating and applying anaesthetics..... 47,729
Heaton, John S., et al. Car-coupler..... 47,569
Heinzerling, Christain. Tanning..... 47,629
Herbolsheimer, C. F., et al. Earth auger..... 47,606
Hill, Edward Colston. Bicycle..... 47,644
Hogan, James T. Sewing machine..... 47,758
Hone, Samuel. Bicycle lock..... 47,715
Hooker, William C. Animal trap..... 47,741
Hopkins, William B. Lawn tennis apparatus..... 47,716
Howard Furnace Company. Heating Furnace..... 47,719
Howard, James W., et al. Ball bearing..... 47,667
Howe, Henry Lawrence. Valve for air-brakes..... 47,587, 47,588, 47,589
Howell, Herbert W. Bob-sleigh..... 47,711
Howell, William Allen. Band-saw guide..... 47,695
Hubbard, William B. Blank book..... 47,601
Hunter, Allen. Machine for picking potato bugs..... 47,682
James, Enoch, et al. Brake..... 47,696
James, John, W. H. Machine for making white lead..... 47,782
Jensen, Julius P., et al. Ball bearing..... 47,774
Jermyn, Charles David. Boiler..... 47,678
Jerome, Charles Coburn. Horse-shoe..... 47,740
Joachim, Andreas, et al. Ball bearing..... 47,774
Johnson, Olof, et al. Art of separating sulphur or sulpurous products from distilled petroleum..... 47,730
Judson, Roswell S., et al. Chair bottom..... 47,603
Kaine, James, et al. Boiler..... 47,697
Kaul, Carl F. Draft regulator..... 47,784
Kearns, Bernard Terance. Bottle..... 47,656
Kennedy, Michael A. Stump extractor..... 47,766
Kimpten, Cornelius. Stone-crusher..... 47,647
Knight, Riley & Tra. Threshing-machine..... 47,578
Kunze, Johann E. H. Desk..... 47,609
Lacey, Thomas, et al. Snap hook..... 47,577
Lafontaine, Albert D. Driving gear for bicycles..... 47,694, 47,695, 47,696
Lamothe, Ovide. Machine for making wire ties..... 77,768
Larkin, Thomas, et al. Vending machine..... 47,596
Le Baron, Walter John. Runner attachment for wheeled vehicles..... 47,625
Leblanc, Charles, et al. Device for operating switches..... 47,684
Lee, Thomas A. Construction of floors, roofs, etc..... 47,773
Lee, Thomas A. Rod for strengthening concrete, etc..... 47,631
Lewis, Joseph R., et al. Snap hook..... 47,577
Loewnstein, Max, et al. Tunnel..... 47,562
Long, David N. Thrashing-machine..... 47,624
Louther, Thomas, et al. Safety lamp..... 47,778
Luther, Flavel S. Crank-shaft for velocipedes..... 47,618
McAllister, Alexander, et al. Deodorizer..... 47,650
McDonel, William Sanfield. Broom..... 47,585
McDougall, Alexander. Apparatus for removing obstructions from water bottoms..... 47,789
McElroy, James Finney. Heat regulator..... 47,570
McGrath, William A., et al. Car-coupler..... 47,569
McKnight, Thomas Ruel. Road scraper..... 47,582
McMaster, William P. Miners lamp..... 47,593
McMillan, Richard, et al. Car-coupler..... 47,641
Maclaren, Arthur W. Gate..... 47,713
Macpherson, Alexander. Cigar..... 47,745
Malony, Lucilla. Garment stretcher..... 47,706
Malone, John Joseph. Shoe for draft animals..... 47,685, 47,686, 47,687
Marshall, Nathaniel M., et al. Cork extractor..... 47,649
Martin, Abraham S., et al. Separator and grader for grain. 47,721, 47,722, 47,723
Martin, James Philip, et al. Brake..... 47,696
Martin, Stephen G., et al. Separator and grader for grain. 47,721, 47,722, 47,723
Mathews, John. Chill..... 47,597
Menard, Adjutor. Tobacco press and knife combined..... 47,592
Merrill, William. Wood-cutting machine..... 47,777
Miller, William Thomas. Box-ending machine..... 47,573
Molloy, Edmund. Floor..... 47,673
Monroe, William H. and Eddy G. Churn..... 47,720
Moran, James Joseph. Attachment for mowing-machines. 47,679
Morgan, Lemuel H., et al. Fastener..... 47,665
Morris, George, et al. Self-waiter for dining tables..... 47,688
Morris, James M. Car replacer..... 47,583
Moses, Joseph. Link..... 47,786
Murchie, Albert F. Spark arrester..... 47,674
Murdie, John. Latch and lock..... 47,658
Nelson, Martin. Radiator coupling..... 47,710
Nimon, George W., et al. Jack..... 47,661
Noakes, Walter N., et al. Machine sheep shears..... 47,733
Paasch, Wilhelm. Heater for milk, cream, etc..... 47,769
Pagé, Lazare. Cleaner for cess-pools..... 47,787
Palmatier, Frank Salisbury, et al. Machine for preparing barrels..... 47,563
Palmatier, Frederick Walter, et al. Machine for preparing barrels..... 47,563
Parent, Ovide, et al. Water-wheel..... 47,676
Paul, Andrew G., et al. Heating system..... 47,564
Paul, Andrew G. Heating apparatus..... 47,598
Paul, Ernest. Revolver..... 47,595
Pelinski, Augusta, et al. Machine for cu ting boiler-tubes. 47,584
Peltier Emile René. Box..... 47,572
Pennington, John Colt. Method of retting fibrous plants.. 47,636
Pickles, James D. Engine for beating paper pulp..... 47,755
Pioneer Thresher Company. Band cutter and feeder..... 47,648
Pope Manufacturing Company. Crank-shaft for velocipedes 47,618
Rahr, Reinhardt. Process of making coffee substitute... 47,757
Randall, Franklin S. Machine for covering wire with loose fibre..... 47,743
Ream, Frank Luther, et al. Earth auger..... 47,606
Rechtsteiner, Frank S. Lathe..... 57,785
Reid, Samuel. Tobacco steaming machine..... 47,726
Richmond, Henry Thomas. Neck-yoke centre... 47,690, 47,691
Robinson, Edward W., et al. Cork extractor..... 47,649
Robinson, John, et al. Self-waiter for dining tables..... 47,689
Robinson, W. H. and A. W. Spring for carts..... 47,599
Rodecker, Charles W. Window screen..... 47,602
Rodman, Charles Webster. Ball for bowling alleys..... 47,680
Roe, James P. Cover for man-holes..... 47,739
Roger, John Charles, et al. Vending machine..... 47,596
Romunder, William, et al. Window..... 47,660
Roseboom, Jesse. Vehicle-wheel..... 47,749
Rounds, Herbert G. Combined step-ladder, ironing-board, wash-bench and truck..... 47,672
Rowntree, Harold. Device for operating elevator doors... 47,751
Roger, David H. Stay for fence wire..... 47,759
Safety Neck-Yoke Company. Neck-yoke centre..... 47,690
Sanborn, William H. Apparatus for breaking horses..... 47,754
Sanders, Richard David. Manufacture of wire..... 47,581
Schicht, Rudolf. Method of and apparatus for drying semi-fluid substances..... 47,633
Schwarz, Solomon. Garment clasp..... 47,627
Scott, Charles. Spring..... 47,708
Scott Shoe Machinery Company. Sewing machine..... 47,717
Scott Shoe Machinery Company. Sewing machine take-up. 47,718
Seadler, James. Sash-lock..... 47,712
Seifert, Arthur C. D. Caster..... 47,522
Shoemaker, George H. Spark arrester..... 47,747
Skiffington, William P., et al. Heating system..... 47,574
Slawson, John C. Street sweeper..... 47,628
Smiley, Josiah Edward. Joint for stovepipes..... 47,708
Smith, Edward J. Whiffletree..... 47,666
Smith, Friend W. Wire-chain..... 47,737
Smith, John V. Cuff-holder..... 47,775
Smith, Thomas Benjamin. Screw-cutting machine..... 47,571
Southwark Foundry and Machine Company. Pump..... 47,669
Steck, Ernst Frederic. Water-tower..... 47,668
Stevens, Sylvanus. Nut-lock..... 47,760
Stevens, Walter B., et al. Grain evener for harvesters.... 47,720
Stewart Manufacturing Company. Gas water heater..... 47,625
Stone, Charles M. Universal joint..... 47,750
Sturges, Lee. Churn..... 47,761
Sweet, Benjamin F. Nut-lock..... 47,780
Thieme, Carl Otto, et al. Machine for cutting boiler tubes. 47,584
Thompson, John A. Window shade hanger..... 47,616
Thompson, Ross, et al. Art of separating sulphur or sulphurous products from distilled petroleum..... 47,730
Thompson, William Henry, et al. Self-waiter for dinning tables..... 47,688
Thomson, Elihu. Detector for electric current meters..... 47,566
Thomson, Elihu. Insulating composition..... 47,567
Thomson, Elihu. Lightning discharge protector for electric apparatus..... 47,565
Thomson, Elihu. Safety device for electric arc-lamps..... 47,568
Tiffany, Martin J. Bottle..... 47,776
Toal, Robert H. H., et al. Safety lamp..... 47,778
Todd, Marquis J. Lever and lock therefor..... 47,607
Todd, Martin N., et al. Fastener..... 47,665
Trebbin, Ludwig, et al. Ball bearing..... 47,774

Trentowsky, Albert Edwin. Plate and bolt..... 47,763
Trevithick, Alfred Ewart. Track cleaner 47,600
Valiquette, John Victor, et al. Pipe sleeve..... 47,693
Valiquette, Mathias, et al. Pipe sleeve..... 47,693
Weaver, Albert S. Bicycle..... 47,699
Webber, Augustine M. et al. Car-coupler..... 47,569
Webster, Warren. Feed water heater and purifier..... 47,638
Wegmann, Edward. Catch, release and fastener for blinds and shutters..... 47,663
Weinrich, Moriz. Process of revivifying bone black..... 47,645
Welch, Charles K. Pneumatic tire..... 47,771, 47,772
Western Wheeled Scraper Company. Road-scraper..... 47,582
Whitmore, Edwin B., et al. Middlings purifier..... 47,655
Willson, Edward R., et al. Car-coupler..... 47,569
Withey, Henry. Gate..... 47,623
Wood, Frederick H. Boot for horses..... 47,605
Wood, William Clark. Art of dry sand moulding..... 47,590
Woodward, Martin J. Apparatus for utilizing gas..... 47,781
Worwick, Albert Edward, et al. Brake-shoe and dresser.. 47,576
Worswick, James Edward, et al. Brake-shoe and dresser.. 47,576
Wragg, George. Potato-digger..... 47,614
Wright, George, et al. Deodorizer..... 47,650
Wurtele, Archibald C. Burglar and fire-alarm..... 47,704
Zohe, Florence Herman. Lawn-mower..... 47,700
York, Levi D. Rolling apparatus..... 47,728
Young, Wesley. Fence..... 47,626
Youngson, John, et al. Fire escape..... 47,731