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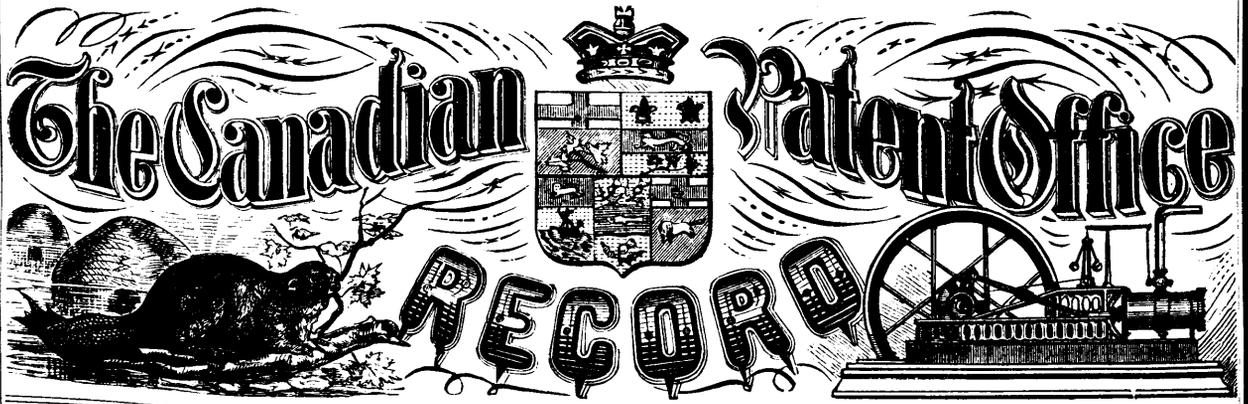
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INVENTIONS PATENTED.

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

No. 34,444. Stove Pipe Damper. (Clé de tuyau de poêle.)

George C. Humphrey and George H. Richards, Pompey, N.Y., U.S., 2nd June, 1890; 5 years.

Claim.—1st. The combination of a primary damper consisting of a case open at opposite sides and pivoted at its ends and a secondary damper consisting of diaphragms united at their ends and arranged rotatably inside of the primary damper, as set forth. 2nd. The combination of a primary damper consisting of a case open at opposite sides and pivoted at its ends, and a secondary damper consisting of parallel diaphragms disposed successively, each with one of its side edges extending beyond that of the adjacent diaphragm alternately at opposite sides of the damper and firmly united and arranged rotatably inside of the primary damper, as set forth. 3rd. The combination of a primary damper consisting of a case open at opposite sides, a secondary damper arranged inside of the primary damper, and a shaft passing loosely through the ends of the primary damper and locked on the secondary damper, substantially as and for the purpose set forth. 4th. The combination of the primary damper beyond that of the other and provided with the circular apertures *b* in its ends, the secondary damper *C* composed of parallel edges extending beyond that of the adjacent diaphragm alternately at opposite sides of the damper, and having the end plates *d d* polygonal portion *e*, and the shaft *l* formed with the passing through the apertures *b* and *e* of the dampers, substantially as described and shown.

No. 34,445. Fence Machine. (Machine à cloture.)

John C. Kremer and William Schlott, Wadsworth, Ohio, U.S., 2nd June, 1890; 5 years.

Claim.—1st. As an improvement in fence making machines, the clamping post or bar having the transverse pins and the U-shaped improvement in fence making machines, substantially as shown and described. 2nd. As an improvement in fence making machines, the guide post having the and described. 3rd. As an improvement in fence making machines ing from the sides of said sleeves, the ears or lugs project substantially as shown and described. 4th. As an improvement in fence making machines, the clamps or tension regulators having the to said former arms, and lugs engaging these teeth, substantially as shown and described. 5th. The clamp or tension regulator com- and the arm having teeth pivotally secured therein, having an arm, lug of said box, substantially as shown and described. 6th. As an improvement in fence making machines, the twister having the open bearing, the flange *h*, rising above said flange, the lugs *h'*, and the spring secured to the base plate and fitting between the lugs *h'*, substantially as set forth.

No. 34,446. Car Coupling. (Attelage de chars.)

Daniel E. Doherty, (assignee of Perry Brown), Louisville, Ky., U.S., 2nd June, 1890; 5 years.

Claim.—1st. A drawhead of the character described, having its mouth formed on the arc of a circle drawn substantially at right angles to the axis of the drawhead, combined with a clutch *C*, pivoted to said drawhead at the rear of one end of said arc, and

having the outer face of its hook *C*, formed substantially on the arc of a circle as set forth. 2nd. The combination, with the drawhead a having a horizontal recess *h*, and a chamber *b*, of a clutch *C*, pivoted to said drawhead and having its locking hook *C'* working in said recess, and a pivoted dog *D*, working in said chamber, substantially as described. 3rd. The combination, in a coupling, of a drawhead *A*, having a recess *h*, adapted to receive a link, an automatically locking hook *C*, and a dog *D*, constructed to hold a link, substantially as described.

No. 34,447. Machine for Breaking up Spices. (Machine à concasser les épices.)

Henry N. Watrous, William I. Brotherton and Chaney J. Pickett, Bay, Mich., U.S., 2nd June, 1890; 5 years.

Claim.—1st. In a machine for breaking spices, the combination, with smooth and corrugated crushing rollers journaled in the frame, of a concave crushing plate below the corrugated roller, substantially as described. 2nd. The combination, with a smooth and a corrugated crushing roller journaled in the frame, of a yielding bearing for one of said rolls, a concave crushing plate journaled below the corrugated roller, and a yielding bearing below said crushing plate, substantially as described. 3rd. In a machine for crushing spices, the combination, with the crushing rollers, of the concave crushing plate below said rollers and having a V-shaped crushing space between the plate and the roller, substantially as described. 4th. In a machine of the kind described, the combination of the hopper *L*, the rollers *B, B'*, yielding bearings for the roller *B'*, the concave crushing plate *I* having an extension *a*, the elastic cushions *J* and *K*, and the spout *N*, substantially as described.

No. 34,448. Candy Mold. (Moule à candi.)

Samuel E. Ball, Dayton, Ohio, U.S., 2nd June, 1890; 5 years.

Claim.—A candy mold composed of a series of separable India rubber bars provided with cells in their proximate faces, with or without metal stiffening bars therein.

No. 34,449. Arc Lamp. (Lampe à arc.)

Elmer A. Sperry, Chicago, Ill., U.S., 2nd June, 1890; 5 years.

Claim.—1st. In an arc lamp, the combination of a main circuit electro-magnet or solenoid with a moving frame on which it is supported, a carbon rod clamping device moved by said electro-magnet or solenoid, and a shunt magnet or solenoid adapted to move said frame. 2nd. In an arc lamp, the combination of a main circuit electro-magnet or solenoid with a moving frame on which it is supported, a carbon rod clamping device moved by said electro-magnet or solenoid and a shunt magnet or solenoid adapted to move said frame, said moving frame suspended on spring bars. 3rd. In an arc lamp, the combination of a main circuit electro-magnet or solenoid with a moving frame on which it is supported, a carbon rod controlling device moved by said electro-magnet or solenoid, and a derived circuit electro-magnet or solenoid adapted to move said frame. 4th. In an arc lamp, the combination of a moving frame with a main circuit electro-magnet or solenoid supported on such frame, a carbon rod clamp actuated thereby, and a lever pivoted at one end and attached toward its other end to an armature of the derived circuit electro-magnet or solenoid, and connected with such frame so that the movement of the latter is effected by the derived circuit electro-magnet or solenoid. 5th. In arc lamp, the combination of the moving frame with a main circuit electro-magnet or solenoid supported thereon, a carbon rod clamp actuated thereby, and a lever fulcrumed on a rigid support attached to the armature of the derived circuit electro-magnet or solenoid, and connected with such frame so that the motion of the frame is effected by the derived circuit electro-magnet or solenoid. 6th. In an arc lamp, the combination of a moving frame with a main circuit electro-magnet or solenoid supported thereon, a carbon rod clamp actuated thereby, and a lever fulcrumed at one end and attached toward its other end to the armature of the derived circuit electro-magnet or solenoid, an elastic support for such lever opposing the derived circuit electro-magnet or solenoid, said frame resting upon said lever. 7th. In an arc lamp, the combination of a moving frame with a main circuit electro-mag-

net or solenoid supported thereon, a carbon rod clamp actuated thereby and a derived circuit electro-magnet or solenoid, a lever rigidly supported at one point and elastically supported at another, and connected with the frame and the derived circuit electro-magnet or solenoid, so that the latter effects the movements of the former. 8th. In an arc lamp, the combination of a carbon separating electro-magnet or solenoid with a carbon clamp connected therewith and operated thereby, a derived circuit electro-magnet or solenoid, and an armature operated by the latter and connected with the former so as to move the said carbon separating magnet or solenoid. 9th. In an arc lamp, the combination of a moving carbon separating device containing a main circuit electro-magnet of solenoid, and a carbon rod clamp controlled thereby to separate the carbons, with a derived circuit electro-magnet or solenoid and an armature connected therewith and operated thereby, and connected also with the moving carbon separating device. 10th. In an arc lamp, the combination of a moving main circuit carbon separating electro-magnet or solenoid with a carbon clamp connected therewith and operated thereby, a derived circuit electro-magnet or solenoid, and a lever connected with said carbon separating device and operated by the derived circuit electro-magnet and solenoid, said lever supported fixedly at one end and elastically at the other. 11th. In an arc lamp, the combination of a carbon separating device consisting of a parallel moving frame, a main circuit electro-magnet or solenoid supported thereon, a carbon rod clamp supported by such electro-magnet or solenoid with a derived circuit electro-magnet or solenoid, and an armature extending between the latter magnet and the frame, so that it effects the motion of said frame. 12th. In an arc lamp, a moving carbon separating device containing the main circuit electro-magnet or solenoid and the carbon rod clamp, in combination with a double acting stop for the clamp, both clamp and stop controlled by said magnet. 13th. In an arc lamp, an electro-magnet mounted on a movable frame, in combination with a carbon rod clamping device and a double acting stop for such clamp, both carbon rod clamp and the stop therefor actuated by said electro-magnet. 14th. In an arc lamp, an electro-magnet mounted on a moving frame, a carbon rod clamp, a double acting stop for such carbon clamp, and a derived circuit electro-magnet, an armature therefor connected with the clamp, both clamp and stop being actuated by the first mentioned magnet or solenoid, and the clamp by the section mentioned electro-magnet or solenoid. 15th. In an arc lamp, an electro-magnet mounted on a movable frame, in combination with a carbon rod clamping device, a double acting stop for such clamp, connections from the electro-magnet or solenoid to the clamp and stop, and a derived circuit electro-magnet or solenoid, and an armature actuated thereby and connected with the carbon separating device. 16th. In an arc lamp, the combination of a moving elastically supported carbon separating device which contains a main circuit electro-magnet or solenoid and a carbon rod clamp, a double acting stop for said clamp, a derived circuit electro-magnet or solenoid, and an armature actuated by the last mentioned electro-magnet or solenoid and connected with so as to move the carbon separating device. 17th. In a carbon clamp for arc lamps, the combination of two opposed carbon clamping pieces, one shaped like a bell crank lever, an arm on which both are pivoted, the one at its angle, means for moving said latter piece to control the carbon. 18th. In a carbon clamp for arc lamps, the combination of two opposed carbon clamping pieces, one shaped like a bell crank lever, an arm on which both are pivoted, one at its angle, means for simultaneously moving the pivoted end of said arm and swinging the angular piece on such pivot, to cause the pieces to clamp or release the carbon. 19th. The combination of a carbon rod with a frictional clamping device, and a lever adapted to engage one edge of said clamp operated by engagement of a second carbon rod, by means of which the said first rod is supported by said clamp at various distances along the rod.

No. 34,450. Neck Tie Holder.

(*Montre à cravates.*)

George A. Huewe, Cincinnati, Ohio, U.S., 2nd June, 1890; 5 years.

Claim.—1st. The combination of a folding box, strip a having openings *a'*, and attached to the back of the box, and yoke E, having outwardly springing legs *a'*, substantially as and for the purposes specified. 2nd. The combination of a folding box, strip a having openings *a'*, and attached to the back of the box, and yoke E having outwardly springing legs *a'*, provided with teeth *a''*, substantially as and for the purposes specified.

No. 34,451. Wrest Plank or Pin Block in Piano Fortes. (*Sommier de piano.*)

Mason and Risch, (assignees of Vincent M. Risch.) Toronto, Ont., 2nd June, 1890; 5 years.

Claim.—1st. The method of binding together the several parts of the wrest plank A, B, C, C', and the whole to the piano frame D, E, E', by means of dovetails and dowels of wood F, F', substantially as above shown. 2nd. In a piano-forte, the combination, with the wrest plank A, B, C, C', and the several parts of the frame D, E, E', of the dovetails and dowels of wood F, F', in the manner and for the purpose aforesaid.

No. 34,452. Curling Tonges. (*Fer à frier.*)

Walter H. Bagshaw, Lowell, Mass., U.S., 2nd June, 1890; 5 years.

Claim.—1st. A hair-curling instrument, consisting of a handle and two parallel spring arms, disposed in close proximity or contact, the outer free ends of said arms being beveled inwardly. 2nd. A hair-curling instrument, consisting of a handle and two parallel spring arms disposed in close proximity or contact, the outer free ends of said arms being beveled inwardly from their outer to their inner edges. 3rd. A hair-curling instrument, consisting of a handle and two parallel spring arms disposed in close proximity or contact, the outer ends of said arms being beveled inwardly, and the inner ends

or shanks thereof being tapered. 4th. Curling tonges, constructed by slotting the elongated back of a metallic comb longitudinally, the outer or free ends of the arms thus formed being beveled inwardly, substantially as described.

No. 34,453. System of Fire Protection.

(*Système de protection contre l'incendie.*)

David A. Jones, Beeton, and George Dickson, Toronto, Ont., 2nd June, 1890; 5 years.

Claim.—1st. As an improved system of fire protection, one or more perforated pipes suitably arranged on or in the structure to be protected, and connected to a water and gas service supplied under pressure, and provided with a cut-off valve to prevent the water and gas pressure entering the perforated pipe or pipes until required, substantially as and for the purpose specified. 2nd. As an improved system of fire protection, one or more perforated pipes suitably arranged on or in the structure to be protected, and connected to a water service supplied with water under pressure, and provided with a cut-off valve to prevent the water pressure entering the perforated pipe or pipes until required, in combination with an automatic cut-off valve supported by a cord carried by an inflammable or explosive connecting loop, having one or more fuse cords extending from it, substantially as specified.

No. 34,454. Type Writing Machine.

(*Graphotype.*)

The Yost Writing Machine Company (assignee of J. Felbel and A. W. Steiger), New York, N. Y., U.S., 2nd June, 1890; 5 years.

Claim.—1st. In a type-writing machine, a type-carrier pivoted at one point to the free end of one pivoted link, and at another point to the free end of another pivoted link, the said links being arranged to vibrate in opposite directions and cause the type to move in two well-defined paths, first, in substantially a horizontal direction radially inward to the common centre, and then substantially in a straight line and axially to the printing surface, substantially as shown and described. 2nd. In a type-writing machine, the combination of a centrally-arranged fulcrum support, a series of links L radiating therefrom, a concentric and exteriorly-arranged fulcrum support, another series of links H radiating therefrom towards the links L, and a series of type-carriers pivoted to said duplex series of radiating links H and L, substantially as set forth. 3rd. In a type-writing machine, the combination of a series of pivoted links H, extending inwardly and downwardly, a series of links L, pivoted nearer the centre of the machine and extending outwardly and downwardly, and a series of type-carriers consisting of the arms *f, f'*, disposed as described, and pivoted to the free ends of the links H and L at the points K, K', substantially as set forth. 4th. In a type-writing machine, the combination of a series of inwardly-extending pivoted links H, a platen above said links, a circular inking surface above said links and between them and the platen, a series of outwardly extending pivoted links L, and a series of type-carriers, each pivoted at two points to the free ends of a pair of said links H, L, substantially as and for the purpose set forth. 5th. In a type-writing machine, the combination, with an inking-surface, as P, and a platen above the same, of a type-carrier E, and the oppositely-arranged links H and L, adapted to move the type from the inking surface, give it a quarter turn, and then move it to the platen, as set forth.

No. 34,455. Bow Facing Oar.

(*Rame articulée.*)

Joseph H. Stewart and Jacob Thomas, Bluff, Tenn., U. S., 2nd June, 1890; 5 years.

Claim.—1st. In a jointed rowing oar, the castings or parts D and E connected to each other by a hinged joint, the blade portion E having a slot through which passes a pin secured to a bed-plate, said slot being located beyond the pivoted portions of the oar, the section D having two or more perforations, and a pin for securing said sections to the plate B, said section being provided with a handle while the opposite section carries a blade, the bed plate having a plain upper surface and pivoted to a support, substantially as shown and for the purpose set forth. 2nd. In a bow-facing oar, consisting of two sections hinged to each other, said sections carrying the handle and blade, a plate having a transverse pivoted pin, by means of which it is secured between the bifurcated portions of the plate A, said bifurcated portions having one or more perforations, through which a pin is passed for limiting the inclination of the plate B, substantially as shown and for the purpose set forth. 3rd. The combination, with a bow facing oar, constructed substantially as shown, or a plate or support A, having vertical members, with a series of perforations through which passes a removable pin or bolt, the upper portions of said plate between the members thereof being beveled, substantially as shown. 4th. The combination, with the jointed cross-sections, one of which is provided with a slot, through which passes a pin, the adjacent section to which it is hinged being pivotally connected to a plate by a pin, the outer ends of said sections being provided with sockets, so that the handle and blade can be removably connected thereto, of the pivoted plate B having a flat upper surface above which the sections D and E move, a transverse pivot bolt located to one side of the centre of the plate B, said bolt being provided with means for locking the same to the vertical members of the support A, substantially as and for the purpose set forth.

No. 34,456. Chain Link, Finger Ring, etc.

(*Maillon de chaîne, anneau, etc.*)

The Burdon Seamless Filled Wire Company (assignee of Bevi L. Burdon), Providence, R. I., U.S., 2nd June, 1890; 5 years.

Claim.—1st. As a new article of manufacture, a ring or other class of articles, as hereinbefore described, having a longitudinally round-

about seamless plated exterior surface of metal and an interior portion of inferior metal, substantially as and for the purpose set forth. 2nd. The ring or other analogous articles hereinbefore described, consisting of a piece of plated or composite externally seamless wire bent and united at the abutting ends by solder, substantially as specified. 3rd. A composite ring, having a roundabout seamless exterior surface of suitable metal, as alloyed gold, and an interior or filling portion, as *b*, of inferior metal or composition of metals united to said exterior portion, and having the ends of the ring united, substantially as shown and hereinbefore described. 4th. The ring hereinbefore described, consisting of the exterior plate or shell *a* of alloyed gold, seamless roundabout, and the interior or filling portion *b*, of gold of less value united to the shell, thereby producing filled ring having gold of different qualities, substantially as shown and set forth. 5th. The composite tubular ring hereinbefore described, consisting of the longitudinally seamless exterior plate or shell *a* and the longitudinally seamless interior shell of inferior metal united to the outer shell, substantially as set forth.

No. 34,457. Flash Light Advertising Sign.

(*Enseigne d'annonce à jet de lumière.*)

Frederick J. Mitchell and Benjamin F. Wheelwright, New York, N.Y., U.S., 2nd June, 1890; 5 years.

Claim.—1st. In a flash light advertising device, the combination with a design to be illuminated, of a clock train, a cam actuated by said train, a valve and valve chamber, the said cam and valve being operatively connected, and a main for supplying an illuminant to the valve chamber and to the design, substantially as described. 2nd. In a flash light advertising device, the combination, with a design to be illuminated, of a clock train, a cam actuated by said train, a valve and valve chamber, the said cam and valve being operatively connected, a main for supplying an illuminant to the valve chamber, and a by-pass connecting the said main and design, substantially as described. 3rd. In a flash light advertising device, the combination, with a design to be illuminated, of a clock train, a cam actuated by said train, a valve chamber *P* and *P'*, a "water cock" comprising the outer tube *L*, inner tube *N* and valve and stem *O*, *O'*, the said cam and "water cock" being operatively connected, substantially as described. 4th. In a flash light advertising device, the combination, with a design to be illuminated, of a clock train, a valve chamber *P* and *P'*, a "water cock" comprising the outer tube *L*, inner tube *N* and valve and stem *O*, *O'*, mechanism for operatively connecting the "water cock" and cam, a main *Q*, *Q'*, and a by-pass *S* connecting the design and main, substantially as described. 5th. In a flash light advertising device, the combination, with a design to be illuminated, of a clock train, a cam *G* actuated by said train, a fly-fan *X* for controlling said cam, a valve chamber *P* and *P'*, a "water-cock" comprising the outer tube *L*, inner tube *N* and valve and stem *O*, *O'*, the said cam and "water-cock" being operatively connected, substantially as described. 6th. In a flash light advertising device, the combination, with a design to be illuminated, of a clock train, a cam *G* actuated by said train, a fly-fan *X* for controlling said cam, a valve chamber *P* and *P'*, a "water-cock" comprising the outer tube *L*, inner tube *N* and valve and stem *O*, *O'*, rocker arm *H* pivotally supported at one end and in operative contact with said cam at the other, and levers *I* and *J* pivotally connected with arm *H* and "water-cock," substantially as described. 8th. In a flash light advertising device, the combination, with a design to be illuminated, of a clock train, a valve chamber *P* and *P'*, a "water-cock" comprising the outer tube *L*, inner tube *N* and valve and stem *O*, *O'*, rocker arm *H* pivotally supported at one end and in operative contact with said cam at the other, levers *I* and *J* pivotally connected with the arm *H* and "water-cock," substantially as described. 9th. In a flash light advertising device, the combination, with a design to be illuminated, of a clock train, a cam *G* actuated by said train, a fly-fan *X* for controlling said cam, a valve chamber *P* and *P'*, a "water-cock" comprising the outer tube *L*, inner tube *N* and valve and stem *O*, *O'*, rocker arm *H* pivotally supported at one end and in operative contact with said cam at the other, the levers *I* and *J* pivotally connected with the arm *H* and "water-cock," substantially as described. 10th. In a flash light advertising device, the combination, with a design to be illuminated, of a clock train, a cam *G* actuated by said train, a fly-fan *X* for controlling said cam, a valve chamber *P* and *P'*, a "water-cock" comprising the outer tube *L*, inner tube *N* and valve and stem *O*, *O'*, rocker arm *H* pivotally supported at one end and in operative contact with said cam at the other, levers *I* and *J* pivotally connected with the arm *H* and "water-cock," substantially as described. 11th. In a flash light advertising device, the combination, with a design to be illuminated, of a clock train, a cam chamber *P* and *P'*, a "water-cock" comprising the outer tube *L*, inner tube *N* and valve and valve stem *O*, *O'*, rocker arm *H* pivotally supported at one end and in operative contact with said cam at the other, levers *I* and *J* pivotally connected with the arm *H* and "water-cock," substantially as described.

No. 34,458. Treatment of Sewage and Apparatus therefor. (*Traitement des produits des égouts et appareil pour cet objet.*)

William Clark, William A. Clark, Charlton, Richard Ginman and William Ginman, Plumstead, Eng., 2nd June, 1890; 5 years.

Claim.—1st. A separator or filter, comprising a cylinder or casing, helical rotary blades arranged therein for the purpose of imparting a whirling motion to the substances to be separated, filtering mate-

rial contained in the wall of the said cylinder or casing, and through which the liquid will be driven by the centrifugal force, and separate outlets, one for the discharge of the liquid and the other for the discharge of the solid or semi-solid matter separated therefrom, substantially as and for the purposes set forth. 2nd. In a separator or filter, the combination, with a cylinder or casing, and rotary helical blades arranged therein for imparting a whirling motion to the substances to be separated, of removable segments fitted in apertures in the wall of the said cylinder or casing, and containing filtering material through which the liquid is forced by the centrifugal force, separate outlets being provided for the discharge of the liquid and of the solid or semi-solid matter, substantially as and for the purposes set forth. 3rd. In a separator or filter, the combination of the cylinder or casing *a*, the helical blades *c* arranged to rotate therein, and removable doors or segments *b* provided with the adjustable lids *b'* and forming parts of the wall of the said cylinder or casing, substantially as and for the purposes described. 4th. The combination, with a sewer, of separators or filters, each comprising a cylinder or casing, rotary helical blades arranged therein, and filtering material contained in the wall of the said cylinder or casing, and pipes connecting the said separators or filters with the said sewer, so that the sewage is divided and sub-divided into small streams, which are passed through the said separators or filters, substantially as and for the purpose set forth.

No. 34,459. Artificial Fuel.

(*Combustible artificiel.*)

Daniel C. Fischel and W. Frank Kelly, Troy, N. Y., U. S., 2nd June, 1890; 5 years.

Claim.—An artificial fuel composed of vegetable refuse, thirty-five parts, coal tar, five parts, charcoal, ten parts, coal dust, ten parts, furnace slag, thirty parts, and oyster or clam shells, ten parts, substantially as set forth.

No. 34,460. Railway Spike.

(*Chevillette de chemin de fer.*)

The Dunham Manufacturing Company, Boston, Mass., (assignee of James Churchward, Brooklyn, N.Y.), U.S., 2nd June, 1890; 5 years.

Claim.—1st. A railway spike having the lower end of its body formed with a sword edge lying in a plane at an obtuse angle to the base line of the head of the spike, substantially as shown and described. 2nd. A railway spike having the forward face of the lower end of its body formed with a sword edge lying in a plane at a right angle to the base line of the head of the spike, substantially as shown and described. 3rd. A railway spike having the lower end of its body formed with two sword edges, one lying in a plane at an obtuse angle to the base line of the head of the spike and the other at a right angle to said base line, said edges meeting at an acute angle, substantially as shown and described.

No. 34,461. Fabric for Machine Belting and other like purposes. (*Tissu pour les courroies de machines et autres fins similaires.*)

The Globe Patent Right Company, (assignee of Joshua P. Maddox), Portland, Me., U.S., 2nd June, 1890; 5 years.

Claim.—The herein described material for belting and other like purposes, consisting of two or more interior plies bound together by a metallic binder warp and facing plies bound to said interior plies, substantially as described.

No. 34,462. Oyster Pail. (*Seau à huîtres.*)

Bruce Murphy, Orillia, Ont., 3rd June, 1890; 5 years.

Claim.—The combination, in an oyster pail, of the sides *A* formed of wood veneer, a wood cover or lid *C*, having metallic strips or catches *d*, affixed thereto for bending over the sides *A*, a wood bottom *B*, and wire bail attached to sides, all constructed substantially as and for the purpose specified.

No. 34,463. Secondary Battery.

(*Pile secondaire.*)

Henry Woodward, Toronto, Ont., 3rd June, 1890; 5 years.

Claim.—1st. An electrode for a secondary battery composed of a series of cylindrical or otherwise shaped perforated tubes made of vulcanized rubber or other acid proof non-conducting material, the said tubes being passed through one or more holders or separators made of vulcanized rubber or other acid-proof non-conducting material, each tube containing a spindle or stem surrounded with lead filings, shavings, or other small pieces of lead, or alloy of lead, the upper ends of each spindle being attached to a horizontal lead connector, and two or more of the electrodes so constructed placed in a cell preferably made of glass and containing the ordinary solution of sulphuric acid, substantially as and for the purpose specified. 2nd. An electrode for a secondary battery composed of a series of cylindrical or otherwise shaped perforated tubes made of vulcanized rubber or other acid proof non-conducting material lined with lead likewise perforated, the said tubes being passed through one or more holders or separators made of vulcanized rubber or other acid-proof non-conducting material, each tube containing a spirally-shaped or corrugated spindle or stem surrounded with lead filings, shavings, or other small pieces of lead, or alloy of lead, the upper ends of each spindle being attached to a horizontal lead connector, and two or more of the electrodes so constructed placed in a cell preferably made of glass and containing the ordinary solution of sulphuric acid, substantially as and for the purpose specified.

No. 34,464. Cuspidor. (Crachoir.)

John J. Parsons, New York, N.Y., U.S., 3rd June, 1890; 5 years.

Claim.—1st. In a cuspidor, a set of flaps extending from the sides of the vessel and folded to form an apron having an opening leading into the interior of the vessel, the said flaps provided with lateral extensions appropriate to overlap the flaps upon the under sides thereof, so as to present no projections upon the upper face of the apron and to lock the flaps to maintain the apron in form, for the purpose set forth. 2nd. In a folded cuspidor, an inclined apron extending inwardly from the sides of the vessel and having an opening leading into the interior thereof, such apron formed by a set of interlocking flaps or sections folded from the sides of the vessel and formed one with lateral notches or shoulders and the next adjacent one formed with a tongue at its free end, and so on alternately, with the set of flaps, whereby when the flaps are folded into position they may interlock and form the apron of the cuspidor, substantially as and for the purpose set forth. 3rd. In a cuspidor, a vessel folded to form and having an apron with an opening leading into the interior thereof and formed by flaps interlocked against upward or downward movement and extending from the sides of the vessel, combined with a frame for holding the sides in position, and thereby maintaining the apron forming flaps locked together to form the apron, substantially as and for the purpose set forth. 4th. In a cuspidor, a vessel formed from a sheet folded into a bottom, sides extending upwardly therefrom, and flaps extending inwardly from the sides, the said flaps formed one with lateral notches and the next adjacent one with a tongue extending from the end thereof, and so on alternately with the set of flaps, said tongues and notches adapted to interlock when the flaps are folded into position and form the apron of the vessel, in combination with a frame for seating the vessel in and holding the flaps interlocked against displacement, substantially as and for the purpose set forth. 5th. In a blank sheet for a folded cuspidor, the apron forming flap 9, having inclined sides and formed with the lateral notches 15 15, combined with the flaps 10 10, formed with the inclined sides and the tongues 17 17, substantially as and for the purpose set forth. 6th. A blank sheet for a folded cuspidor, comprising the bottom space 6, with sides 7 7 7 extending therefrom, and flaps 9 9, having inclined sides and formed with the notches 15 15 and projections 20, the flaps 10 10, formed with inclined sides, and tongues 17 17, having projections 21 21, substantially as and for the purpose set forth.

No. 34,465. Hominy or Corn Flake.*(Pâte ou fécule de maïs.)*

James A. Currie, Springfield, Ohio, U.S., 3rd June, 1890; 5 years.

Claim.—1st. The process of preparing corn for food, which consists in, first reducing it to hominy, then cooking the grains till they have been gelatinized or converted into dextrine, and then crushing the grains, without destroying their individuality, into large, thick flattened flakes, substantially as shown and described. 2nd. The "hominy flake" product herein described, consisting of whole grains of hominy gelatinized by steam, and rolled into large thick translucent flakes, substantially as described.

No. 34,466. Wrench. (Clé à écrou.)

Henry Bornstein and Charles Green, Boston, Mass., U.S., 3rd June, 1890; 5 years.

Claim.—1st. In a wrench, a body provided with a fixed jaw, a movable jaw affixed to a jaw fitted to slide longitudinally through said fixed jaw and body, an exteriorly screw threaded rod secured to a handle and fitted to work in said body, said rod having a threaded chamber in which the corresponding threaded end of said bar works, and a check nut on said rod adapted to engage said body and secure the jaws in position, substantially as and for the purpose set forth. 2nd. In a wrench, a fixed jaw, a movable jaw, a body on said fixed jaw, a threaded handle working in said body and interiorly threaded to receive a threaded end of said movable jaw, and a check nut on said handle, the threads on said handle and movable jaw being out in opposite directions, substantially as described. 3rd. In a wrench of the character described, a body, a fixed jaw secured to said body, a movable jaw, a handle, a rod secured in said handle, and a check nut mounted on said rod, the movable jaw being provided with an inwardly extending bar adapted to slide in a mortise in the fixed jaw, said bar having a right hand screw thread adapted to work in a correspondingly threaded hole in said rod, and said rod provided with a left hand screw thread adapted to work in a correspondingly threaded hole in said body, whereby when said handle is turned to the right or left, the jaws will be closed or opened, as the case may be, with greater rapidity than when one screw is employed, and the jaws may be adjusted and set in any desired position substantially as described. 4th. In a wrench, the body B, threaded at *j*, and provided with the jaw C, the bar *f*, sliding in said body and provided with the threaded portion *d*, stop *m*, and jaw D, the rod H affixed to the handle A, and provided with the threaded chamber *h*, and exterior threads *l*, and the check nut K, on said rod, substantially as and for the purpose set forth. 5th. A wrench having its movable jaw actuated by means of right and left hand screws moved by rotating the handle, said movable jaw sliding through the fixed jaw, and a check nut in said handle for holding said jaws in position, substantially as described. 6th. The bar *f*, provided with the jaw D and thread *d*, the body B, provided with jaw C, side pieces *p*, curved groove *k*, and threaded at *j*, the exteriorly and interiorly threaded rod H, affixed to the handle A, and the check nut K, provided with the vertically curved groove *l*, all being arranged to operate substantially as described. 7th. A wrench having its movable jaw sliding in the fixed jaw and actuated by right and left hand screws on the wrench handle, and check nut on said handle, the jaws of said wrench being extended laterally, substantially as and for the purpose set forth.

No. 34,467. Can Opener.*(Couteau pour les boîtes métalliques.)*

Alexander Hunter, Muskegon, Mich., U.S., 4th June, 1890; 5 years.

Claim.—1st. In a can opener, the combination with the handle having a head and the central projection serving as a fulcrum, of the straight knife on one side of said projection and the lateral curved knife on the other side thereof, substantially as described. 2nd. In a can opener, the combination of the handle A, having a head *a*, one end of which is furnished with the guide flange *a'*, the flattened projection B integral with the head, the straight knife D, secured to one end of the head, and the laterally curved knife secured to the opposite end of the head, substantially as described.

No. 34,468. Churn. (Baratte.)

Byron S. Hovey and Walter H. Drake, Stockville, Neb., U.S., 4th June, 1890; 5 years.

Claim.—1st. The combination, with opposite standards, of a churn body support pivotally mounted therein and comprising upper and lower projecting arms and a central ring, the lower arms terminating in churn body supports, and the upper arms being provided with churn body retaining balls, a churn body mounted in the support, a cover mounted over the body, the balls mounted over the cover, and a cam-lever pivoted upon the cover and adapted to lock the balls, substantially as specified. 2nd. The combination, with the balls, of the churn support pivotally mounted therein and the standards, of the churn support pivotally mounted therein and comprising the body embracing ring, the lower inwardly turned churn supporting arms and the upwardly projecting embracing arms, the churn mounted in the ring, the cover mounted on the churn, the pivoted balls mounted in the upwardly projecting arms and taking over the cover, the perforated lug mounted upon the cover, and the cam-lever bifurcated to embrace the lug and pivoted thereto, having its cam-faces provided with grooves, and each adapted to impinge upon a bail, substantially as specified. 3rd. The combination, with a base having opposite standards provided at their upper ends with bearings, of the herein described churn support, formed of sheet metal and consisting of a central ring having opposite bearing studs mounted in the bearings, and upper and lower projecting arms, the former being provided with devices adapted to interlock with locking devices upon a churn cover for retaining the churn within the support and the latter inwardly bent at their lower ends and adapted to support a churn body, substantially as specified. 4th. The churn body, the skeleton support therefor, the balls pivoted in the support, the churn cover or lid having the cam-lever with the grooved cam-faces, the central portion of each bail being engaged in the grooved faces of the cam-lever, set forth.

No. 34,469. Fuel. (Combustible.)

Heinrich Conried, New York, U.S., (assignee of Josef Wiesner, Vienna, Austria,) 4th June, 1890; 5 years.

Claim.—As a new article of manufacture, fuel blocks composed of disintegrated coal or other disintegrated combustible material, with so-called wood lixivium or concentrated liquor of the sulphide cellulose process, in about the proportions given, substantially as set forth.

No. 34,470. Fruit Box. (Boîte à fruits.)

Van Buren Wheat and Winfield S. Wait, Orleans, N. Y., U.S., 4th June, 1890; 5 years.

Claim.—1st. A box, having its end grooved at their upward, inward edges, which project above the sides of the box, a cover to slide in said grooves and handles secured to the sides of the box adapted to be turned over the ends of the box to release the cover to be folded down upon the box cover, and to be raised and used for carrying, and thus also locking the box, as herein set forth. 2nd. A box, having its sides extended below its end pieces, a bottom fitted in between said sides and attached to the end pieces of the box, said end pieces grooved on the inside of their upper edges, which extend above the sides of the box, a cover adapted to slide in said grooves, and handles so secured to the sides of the box as to be turned out to release the cover and up to serve as handles, or folded down on the box cover, substantially as and for the purposes herein set forth.

No. 34,471. Door Latch. (Clenche de porte.)

Auguste Bronner, Montréal, Qué., 4th June, 1890; 5 years.

Résumé.—Un nouvel article de manufacture, un système de fermeture de porte dit à clanche, dans lequel la clanche est remplacée par la poignée L à essieu ajustable et polygonal K, portant à son extrémité opposée à la dite poignée un double levier à bras, égaux *f, f*, et renforcement semi-circulaire *p* percé d'une ouverture polygonale correspondante à celle du dit essieu K, le tout tel que ci-dessus décrit et pour les fins ci-dessus mentionnées.

No. 34,472. Artist's Portfolio.*(Porte-feuille d'artiste.)*

Flora M. LaBruce, Armandale, S.C., U.S., 4th June, 1890; 5 years.

Claim.—1st. In an artist's portfolio, the combination, with a main or body frame and an auxiliary frame hinged thereto, adapted to fold therein, of a marginal frame held within the auxiliary frame, essentially L-shaped, corner pieces attached to the inner side of the main or body frame, and spring-actuated cushions attached to the said corner-pieces, all combined to operate substantially as and for the purpose specified. 2nd. The combination, with a main or body frame and an auxiliary frame hinged thereto adapted to fold therein, of a marginal frame secured within the auxiliary frame, provided with a series of transverse grooves, pins adapted to slide in said grooves, essentially L-shaped corner piece attached within the

main frame, having a longitudinal recess in the horizontal member, and spring-actuated cushions secured within the recess of the corner pieces, substantially as shown and described. 3rd. The combination with a main frame, and an auxiliary frame attached thereto adapted to fold therein, of a marginal frame within the auxiliary frame and frame at or near the corners, attached to the inner side of the main frame at the corners, substantially as shown and described. 4th. The combination, with a main frame and an auxiliary frame attached thereto adapted to fold therein, of a marginal frame within the auxiliary frame, spring-actuated cushion attached to the inner side of the main frame, at or near the corners, and a small cushion intervening the corner cushions, substantially as and for the purpose specified. 5th. The combination, with a main or body frame and an auxiliary frame attached thereto, adapted to fold therein, of a marginal frame secured within the auxiliary frame, having dovetail transverse grooves produced therein, dovetail pins adapted to enter said grooves, essentially L shaped corner pieces secured to the inner side of the main frame, having a longitudinal recess in the horizontal member, spring-actuated cushions, of a light material held within the recess of the corner pieces, and spring-actuated cushions secured to the said body frame, intermediate of the corner cushions at top and bottom, substantially as and for the purpose specified.

No. 34,473. Flushing Tank for Water Closets. (*Citerne de lavage pour les latrines.*)

Robert S. Galbraith, Toronto, Ont., 4th June, 1890; 5 years.

Claim.—A compartment A, connected to the compartment C by the passageway F, an elbow-shaped chamber E, connected to the flushing pipe D, and having a valve-way G located immediately over the opening into the passageway F, in combination with the valve G, valve rod H, lever I, rod J and spring K, substantially as and for the purpose specified.

No. 34,474. Steam Engine.

(*Machine à vapeur.*)

Joseph A. Mumford, Hantsport, N.S., 4th June, 1890; 5 years.

Claim.—1st. The herein described engine, consisting of frame A, high and low pressure cylinders B, valve chest, valve H, pistons, piston rods and crank shaft, all formed and combined substantially as and for the purpose hereinbefore set forth. 2nd. The herein described engine, consisting of frame A, high and low pressure cylinders B, valve chest, valves H and I, pistons, piston rods and crank shaft, all formed and combined substantially as and for the purpose hereinbefore set forth. 3rd. In an engine, an oil receptacle E at the bottom of the cylinder, having raised wall E' around the connecting bearing, lubricator or tube F and casing J, substantially as and for the purpose set forth. 5th. In an engine connecting rod bearing, lubricator or tube F, and casing J and hollow connecting rod G, substantially as and for the purpose set forth.

No. 34,475. Link Driving Belt.

(*Courroie de commande à chaînons.*)

John A. J. Shultz and Bruce C. Alvord, St. Louis, Mo., U. S., 4th June, 1890; 5 years.

Claim.—A link-driving belt, composed of a series of independent leathery links and leathery rods, combined substantially as described.

No. 34,476. Combined Spring Hinge and Door Check. (*Ressort de porte et arête-porte combinés.*)

Charles F. Hanington (assignee of James W. Morris), New York, N. Y., U.S., 4th June, 1890; 5 years.

Claim.—1st. The combination, with a door and its casing, of a hinge, means for reciprocating the pintle of the hinge, operated by the movement of the door, means carried by the hinge for checking the movement of said pintle in one direction, whereby the door is checked, and a spring for closing the door, substantially as set forth. 2nd. The combination, with the stationary and moving leaves of a hinge of hollow knuckles, with the stationary and moving leaves of a said knuckles, a part adapted to move vertically within said part, substantially as set forth. 3rd. The combination, with the moved vertically within said knuckles by the opening of the door, a said knuckles, substantially as set forth. 4th. The combination, with the stationary and moving leaves of a hinge of hollow knuckles, a pintle within said knuckles, a head on said pintle, means for reciprocating said pintle, a head on said pintle, means for setting forth. 5th. The combination, with the stationary and moving leaves of a hinge, of hollow knuckles, with the stationary and moving leaves of a hinge, of hollow knuckles, a pintle within said knuckles, a head on said pintle, means for reciprocating said pintle, a head on said pintle, means for setting forth. 6th. In a spring hinge, the combination, with the stationary and moving leaves of a hinge, of hollow knuckles, with the stationary and moving leaves of a hinge, of hollow knuckles, a pintle within said knuckles, a head on said pintle, means for reciprocating said pintle, a head on said pintle, means for setting forth. 7th. In a spring hinge, the combination, with the stationary and moving leaves of a hinge, of hollow knuckles, with the stationary and moving leaves of a hinge, of hollow knuckles, a pintle within said knuckles, a head on said pintle, means for reciprocating said pintle, a head on said pintle, means for setting forth. 8th. In a door check, the combination, with a cylinder of uniform bore for a portion of its

length, and of greater bore in the lower portion thereof, near the close of the stroke of the piston, of a plunger fitting the lesser bore snugly, substantially as set forth. 9th. In a combined spring hinge and door check, the combination, with a pintle and means for reciprocating it, of a dash-pot, of which the pintle forms the plunger, substantially as set forth. 10th. The combination, in a combined spring hinge and door check, of a pintle, means for reciprocating said pintle, a head on the pintle, a cylinder within which said head reciprocates, and means for permitting the shifting of the working fluid in the cylinder, substantially as set forth. 11th. In a combined spring hinge and door check, the combination of a reciprocating pintle, means for moving said pintle directly in each direction, and a check for retarding the movement of the pintle in one direction, substantially as set forth. 12th. The combination in a combined spring hinge and door check, of a pintle, means for moving said pintle in one direction during the opening of the door, a spring compressed by said movement, a head on the pintle forced by said spring in the return direction, and a cylinder within which said head moves, and means for permitting the displacement of the working fluid therein, substantially as set forth. 13th. In a combined spring hinge and door check, the combination of a pintle held from rotating a turning part of the hinge adapted to engage with and move said pintle in one direction, a spring for returning said pintle, and a check for retarding the return movement of the pintle, substantially as set forth. 14th. In a combined spring hinge and door check, the combination of a pintle held from rotating a turning part of the hinge adapted to engage with and move said pintle in one direction, a spring for returning said pintle, and a dash pot, of which the pintle forms part, substantially as set forth. 15th. In a combined spring hinge and door check, the combination of a pintle squared for a portion of its length to adopt it to slide through a square hole in a fixed part of the hinge, a moving part of the hinge adapted to engage with and move said pintle in one direction, a spring for returning said pintle, and a dash-pot, of which the pintle forms part, substantially as set forth. 16th. In a combined spring hinge and door check, a pintle held from rotating a projection or projections on said pintle, an incline surface on a moving part of the hinge, engaging with said projections, a spring for returning said pintle, and a check for retarding the return movement of the pintle, substantially as set forth. 17th. The combination, in a combined spring hinge and door check, with the stationary and moving hinge leaves, of a cylinder attached to said stationary leaf and forming the support for the moving leaf to turn on, and a pintle entering said cylinder and said moving hinge leaf, substantially as set forth. 18th. In a convertible combined spring hinge and door check, the combination, with the spring and checking mechanism, of means for throwing said mechanism out of action, substantially as set forth. 19th. In a convertible combined spring hinge and door check, the combination, with a pintle and means for reciprocating it, of a dash-pot, of which the pintle forms the plunger, and means for throwing the reciprocating mechanism out of action, substantially as set forth. 20th. In a convertible combined spring hinge and door check, the combination of a pintle, means for reciprocating the pintle, and means for throwing the reciprocating mechanism out of action, substantially as set forth. 21st. In a convertible combined spring hinge and door check, the combination, with the pintle squared for a portion of its length, of a piece having a square hole through which said pintle passes, a dog to lock said piece and means for releasing said dog to permit the piece to turn, substantially as set forth. 22nd. The combination, in a combined spring hinge and door check with a pintle rotated by the opening of the door, of co-acting projections and inclines, whereby the rotation of said pintle is converted into a vertical movement, a spring compressed by the vertical movement of the pintle and acting to produce a return movement of the pintle, a head on said pintle, a cylinder within which said head reciprocates, and means for permitting the shifting of the working fluid in the cylinder, substantially as set forth. 23rd. In a spring hinge, the combination, with a pintle, of inclines and slots on the hinge knuckles, and projections on the pintle, said inclines and slots and said projections being located in such relation as to engage respectively the vertical slots and inclines in said knuckles, substantially as set forth. 24th. In combination with one leaf of a hinge, having reversely formed inclines, and the other leaf having a vertical slot, of a pintle having projections engaging respectively with said inclines and slots and extending into a cylinder, said cylinder and a head on said pintle, a spring located between said head and one end of the cylinder, and passages in said head to permit the shifting of the working fluid, substantially as set forth. 25th. The combination, with the hinge pintle, of two rollers, a screw for securing each of said rollers on said pintle, and a third screw, substantially as set forth.

No. 34,477. Wire Nail. (*Clou de fil de fer.*)

James Pender and Walter O. Purdy, St. John, N. B., 4th June, 1890; 5 years.

Claim.—1st. The process of roughening the bright, smooth surface of wire nails, by corrosion or oxidation, as set forth. 2nd. A wire nail, having an oxidized or corrosively roughened surface, and dark or bluish appearance, as set forth.

No. 34,478. Pulley. (*Poulie.*)

Averit W. Michael, Benton Harbor, Mich., U.S., 4th June, 1890; 5 years.

Claim.—1st. The combination, with the two halves of the pulley having openings for the passage of the shaft, of the two pieces upon opposite sides of the said openings and formed with wedge shaped projections, the block D, formed upon opposite sides with recesses h, and shoulders g, and the wedge shaped block having a wedge shaped recess engaging the wedge shaped projections on the aforesaid pieces, as set forth. 2nd. The combination, with the two halves of the pulley having openings for the shaft, of the pieces on the outer faces of the halves adjacent to the passage way therein and formed upon opposite sides with wedge shaped projections, of the block having a longitudinal recess to embrace the shaft and upon its outer longitudinal face formed with a recess having oppositely

inclined sides, and the wedge shaped block E, formed along its inner edge or face with a recess to embrace the shaft and upon its other or outer face with a longitudinal wedge shaped recess, and the double dovetailed holding piece G, substantially as and for the purpose specified.

No. 34,479. Lemon Squeezer.

(*Pressoir à citron.*)

Cornelius Chambers, Birmingham, Eng., 7th June, 1890; 5 years.

Claim.—1st. The improvements in lemon squeezers hereinbefore described and illustrated by the accompanying drawings, which consist in the employment of a roll or sector mounted so as to be capable of angular movement, in combination with a curved or flat surface fixed a short distance therefrom, and with or without a spring or springs for pressing the roll or sector towards the said flat or curved surface, these parts being so arranged that, when a lemon is inserted between the roll or sector and the flat or curved surface and the roll or sector is turned the lemon will be rolled around and squeezed between the said surface of the roll or sector, substantially as and for the purpose set forth. 2nd. The combination and arrangement of parts constituting the improved lemon squeezer hereinbefore described. 3rd. The combination and arrangement of parts constituting the improved lemon squeezer hereinbefore described.

No. 34,480. Tubular Lantern.

(*Lanterne tubulaire.*)

Alfred L. Baron, Findlay, Ohio, U.S., 7th June, 1890; 5 years.

Claim.—1st. A new article of manufacture consisting of a tubular lantern provided with a pivoting grip and with a globe supporting frame hinged to said guard, substantially as and for the purposes set forth. 2nd. A tubular lantern provided with a guard secured to pivoting arms, and a globe supporting frame hinged to said guard substantially as described and for the purposes set forth. 3rd. A tubular lantern provided with a guard pivoted within side tubes, and a globe supporting frame hinged to said guard provided with shoulders *j, j'*, adapted to engage with said guard, for the purpose set forth and described. 4th. A tubular lantern provided with a guard pivoted within side tubes, and a globe supporting frame hinged to said guard provided with shoulders *j, j'*, adapted to engage with said guard and with the thumb piece *k*, for the purpose set forth substantially as described.

No. 34,481. Journal for Vehicles.

(*Fusée d'essieu de voiture.*)

Pierre Dansereau, Montreal, Que., 7th June, 1890; 5 years.

Claim.—1st. In combination, a vehicle axle B having grooves *a'*, *b, c'*, collars G and H having grooves *h* and *h'*, collar H having aperture *m*, of sand band F having flanges *g'* and *f*, of washers *g, g'* and *g''*, and of means for securing the sand band to the hub, substantially as and for the purpose hereinbefore set forth. 2nd. In combination, sand band F formed as described of nipple and plug *i, i'*, substantially as set forth. 3rd. In combination half spiral headed pin *d'* passing through spiral spring *d*, fitting into a cavity *d* in the end of the axle at D, of the end head nut or cap E and of axle box C, substantially as and for the purposes hereinbefore set forth.

No. 34,482. Potato Digger. (*Arrache-patates.*)

Hiram D. Binkley, Dundas, Ont., 7th June, 1890; 5 years.

Claim.—1st. In a machine for digging potatoes, the share H formed flat or slightly hollow for the purpose of better feeding and preventing the earth from spreading under the wheels, substantially as specified. 2nd. In a machine for digging potatoes, the pickers K tormented with webbed fingers, as shown at *a'* Fig. 4, to prevent potato stalks from winding substantially as described. 3rd. In a machine for digging potatoes, the projecting tubes, hubs *a* formed on the centre of the pickers, and with clutch devices by which they can all be clutched together to revolve, substantially as described. 4th. In a machine for digging potatoes and in combination with the picker shafts I, J, of the solid wheels L placed on the said shafts with the pickers, substantially as and for the purpose described. 5th. In a machine for digging potatoes, the arrangement of a pronged hook V driven by a crank or otherwise, and made to operate over the pickers for pulling potato tops and weeds over said pickers, substantially as described. 6th. In a machine for digging potatoes, in combination with the share of the bars *e*, having their inner ends bent at right angles and laid in a corresponding hollow of the projection *g* at the rear end of the share, for greater convenience in removing and replacing them when broken, substantially as described. 7th. In a machine for digging potatoes, the vibrator W *m* in combination with the pickers and share, substantially as specified.

No. 34,483. Method of Making Burial Caskets. (*Mode de fabrication des cercueils.*)

Louis Dupont, Pont Rouge, Que., 7th June, 1890; 5 years.

Claim.—The method herein described, which consists in pressing the wood pulp in a suitable mold, the said mold being provided with a core having numerous perforations on its surface, and these perforations being connected by means of an interior chamber having an outlet, substantially as and for the purpose set forth.

No. 34,484. Journal Bearing.

(*Coussinet de tourillon.*)

Marion A. Andrews, Syracuse, N.Y., U.S., 7th June, 1890; 5 years.

Claim.—1st. A sectional journal casing, an endless trackway within it, a central ring having endless trackways upon its inner and

outer faces, and groove rollers travelling upon the trackway within the casing and upon the outer face of the ring, in combination with an axle grooved to fit over the trackway within the ring and passing loosely through the ring as set forth. 2nd. A friction ring having an endless trackway within it, an endless trackway around its exterior, an axle grooved to fit upon the trackway within the ring, an exterior casing, and an endless trackway within it, grooved rollers fitting over the external trackway upon the ring and the internal trackway of the said casing, and annular rings carrying separate arbors for the grooved rollers, in combination, as set forth. 3rd. A journal bearing comprising an external casing having an internal trackway, grooved rollers mounted upon separate arbors, rings supporting said arbors, antifriction washers upon said arbors, the grooved shaft, and the central ring having internal and external trackways, a bore of larger diameter than the axle, as set forth.

No. 34,485. Gas or Gaseous Mixture usable as an Explosive and in the Production of Light, Heat and Power. (*Gaz ou mélange gazeux propre à produire un explosif, la lumière, la chaleur et la force.*)

Edwin Tatham, Balmain near Sydney, N.S.W., 7th June, 1890; 5 years.

Claim.—1st. An improved explosive gas manufactured by charging oxygen with hydrogen and carbon preferably by passing oxygen through or over liquid hydro-carbon or by mixing hydro-carbon gas and oxygen, substantially as herein described and explained. 2nd. Improved gas or gaseous mixtures for use in the production of light, heat and power, manufactured by mixing my carburated oxygen with hydro-geneous or hydrocarbon gas or gases, or with carburated water gas, or for heating purposes alone with hydrogen or water gas, substantially as herein described and explained. 3rd. Improved gas or gaseous mixtures for use in the production of light, heat and power, consisting of oxygen and hydrogen, either or both of which before admixture are carburated or charged with hydro-carbon or consisting of oxygen and hydrogen mixed and the product carburated, substantially as herein described and explained.

No. 34,486. Hydrogenous and Hydro Carbon Gas or Gases, and Gaseous Mixture, and the Manufacture Thereof. (*Gaz hydrogène et l'hydro-carbone, et mélange gazeux, et leur fabrication.*)

Edwin Tatham, Balmain near Sydney, N.S.W., 7th June, 1890; 5 years.

Claim.—1st. The improvement, in hydrogenous or hydro-carbon gas or gases, or gaseous mixtures, consisting in the admixture therewith during or after manufacture of oxygen or carburated oxygen, substantially as herein described and explained. 2nd. The improvement, in the manufacture of hydrogenous or hydro-carbon gas or gases, and specially in coal gas, consisting in the admixture therewith during manufacture, and preferably as the said gases issue from the carbonizers or retorts, of oxygen or carburated oxygen, substantially as herein described and explained. 3rd. The improvement, in the manufacture of hydrogenous or hydro-carbon gas or gases, and specially in coal gas, consisting in first producing a dense gas or gas rich in carbon by retorting or carbonizing at a comparatively low temperature, and then adding oxygen or carburated oxygen to the same, preferably while said gas is still hot, substantially as herein described and explained. 4th. The improvement, in the manufacture of hydrogenous or hydro-carbon gas or gases, and specially of coal gas, consisting in converting tar and other similar residual hydro-carbons produced or deposited in said manufacture into gas or vapour, and adding to said gas or vapor while still hot oxygen or carburated oxygen, substantially as herein described and explained.

No. 34,487. Internal Combustion Thermo-motor. (*Thermo-moteur à combustion interne.*)

James Hargreaves, Farnworth, Eng., 7th June, 1890; 5 years.

Claim.—1st. In internal combustion thermo-motors, the combination of a working cylinder fitted with a metallic liner, a combustion chamber cast in one piece with such cylinder and having its sides lined with fire brick, a jacket surrounding said cylinder and chamber, a regenerator partially outside of and partially within said jacket, a passage between said combustion chamber and regenerator, an injector adapted to force liquid fuel into said passage, a piston faced with steel plates and adapted to work in said cylinder, one or more lubricators carried by said piston and adapted to lubricate same, means for scraping the side surfaces of said piston in its movement, an air pump cylinder and piston, connection between said pistons, suitable crank shaft, bearings for same, and connecting rod, communicating ways between said air pump and jacket and between this latter and the regenerator, admission and exhaust valves with means for operating same, suitable outlet or uptake from exhaust valve for products of combustion, passing through air supply way, and a suitable governor adapted to operate a throttle valve in said air supply way, all as shown and described. 2nd. In thermo-motors, the combination of a regenerator and water jacket, substantially in the manner and for the purpose set forth. 3rd. In thermo-motors having a combustion chamber and a regenerator possessing a main charging door, a supplementary charging hole to said regenerator through which loose pieces of refractory material may be passed to avoid opening the said main charging door of same, all constructed as shown and described. 4th. In thermo-motors having a combustion chamber and a regenerator with a communicating passage, the combination therewith of an injector adapted to force

liquid fuel into said passage at a point between said chamber and regenerator, in the manner and for the purpose set forth. 5th. The combination, with the piston 13, of steel plates 14, and claws 15 for holding such plates in place, substantially as shown and described. 6th. The combination with the pistons, of thermomotors of lubricating appliances, carried by said pistons and arranged to lubricate same, substantially as set forth.

No. 34,488. Split Pulley. (*Poulie d'assemblage.*)

The Reeves Pulley Company, (assignee of Milton O. Reeves,) Columbus, Ohio, U.S., 7th June, 1890; 5 years.

Claim.—1st. In a pulley, the combination of the rim built of segments and the series of thin flat bars extending from side to side of the rim, with open spaces between them, parallel with the circumferential plane of the pulley, and having their ends secured in the rim, and forming therefor a compound diametrical cross-bar, as set forth. 2nd. In a separable pulley, the combination of the rim, consisting of two substantially equal diametrically separable sections, each having a compound cross-bar consisting of a series of thin flat bars, having their ends secured to the rim section, and arranged side by side, with open spaces between them parallel with the circumferential plane of the pulley, each of said compound cross-bars having a central semi-cylindrical groove adapted to embrace a shaft, and a series of bolts arranged to pass through both of the compound cross-bars, in the space between their several members, and adapted to clamp the pulley sections together upon the shaft, as set forth.

No. 34,489. Temporary Covering for Pulleys. (*Enveloppe temporaire pour les poulies.*)

The Reeves Pulley Company, (assignee of Milton O. Reeves,) Columbus, Ohio, U.S., 7th June, 1890; 5 years.

Claim.—The above described temporary covering for pulleys, consisting of a strip of paper, or other wrapping material, arranged to cover the face of the pulley, a series of wooden bars, each having a series of transverse grooves in one side, said bars being arranged at intervals outside of said wrapping strip, around the periphery of the pulley substantially parallel with its axis, and a cord passed around the pulley over the bars, resting in said grooves therein and tightly secured thereon, all substantially as and for the purpose specified.

No. 34,490. Horse Checking Device. (*Appareil pour contrôler des chevaux.*)

William P. Smith, Seattle, W., U.S., 9th June, 1890; 5 years.

Claim.—1st. In a horse-checking device, the hollow bracket A, constructed of the enlarged upper portion *a* and vertical portion *b*, and formed with the notches *l*, in combination with the rack-bar *s* and rack bar, substantially as described. 2nd. In a horse-checking device, the hollow bracket A, constructed of the enlarged upper portion *a* and vertical portion *b*, and formed with the notches *l* and stop projections *n*, in combination with the rack-bar working in said vertical portion, and means for raising and lowering said bar and locking it in its elevated position, substantially as described. 3rd. In a horse-checking device, the rack-bar C, the cam and hollow lever *i* and cam and lever, the said cam being formed with teeth on a part of its periphery adapted to engage the teeth of the rack-bar, substantially as shown and for the purpose set forth. 4th. In a horse-checking device, the combination with the rotating shaft and vertically-moving rack-bar, of the hollow bracket A, in which said rack-bar *s* and the cam and hollow lever *i* are integrally combined and pivoted in formed with the tongue which enters the notches of the bracket, substantially as described.

No. 34,491. Automatic Low Water Indicator. (*Indicateur d'eau automatique.*)

Thomas Northey, Toronto, Ont., 9th June, 1890; 5 years.

Claim.—1st. The combination, in a low water indicator for boilers, of a pipe K leading from the upper part of the boiler C, and having at its upper end a valve seat controlled by a valve O, the spindle R said valve O, and a metal tube D slightly curved toward the valve O, and firmly held at both ends, having a closed upper end and communicating at its lower end with the interior of the boiler below the normal water level of the same. 2nd. The combination of the open column A, having a cap E at its upper end, the threads formed at its base, and the small opening L extending through one side of its curved tube D, having the closed upper end and secured within the column, as described. 3rd. The combination of the open column A, having the cap E at its upper end, the threads formed at its base, and the small opening L extending through one side of its base, curved tube D, having the closed upper end and firmly secured at both ends within the column, the side tube K, the valve chamber M formed with the side lugs, and the valve seat N, the whistle B, and the conical valve O, having the projecting spindle R, substantially as set forth. 4th. The combination of the open column A, having the cap E at its base, and the small opening L extending through one side of its base, the pipe J, extending down from the lower end of the column, the curved tube D, having the closed upper end and firmly secured at both ends within the column, the side tube K, the valve chamber M, the whistle B, the conical concave valve O, having the projecting spindle R, and the spring, substantially as and for the purpose set forth.

No. 34,492. Drying Attachment for Brick Kilns. (*Appareil de dessiccation pour les fours à briques.*)

Palmer J. Gurnee, Rondout, N. Y., U.S., 9th June, 1890; 5 years.

Claim.—1st. The combination, with the arch of a brick kiln and a burner introduced therein, of a heater located in said arch, having open ends and provided with a perforated top, and a damper capable of sliding over said top, provided with a hinged gate, substantially as shown and described. 2nd. A portable heater for brick kilns, consisting of a box having a perforated top, and provided with an imperforate slide upon its upper perforated surface, substantially as described. 3rd. The combination, with a heater, provided with a series of graduated perforations and open at its ends, of a damper held to slide over the perforations, and a gate hinged to said damper, substantially as shown and described.

No. 34,493. Car Coupling. (*Attelage de char.*)

Charles F. Francisco and George Goodwin, San Diego, Cal., U.S., 9th June, 1890; 5 years.

Claim.—1st. In a car coupling, a locking dog provided with arms and with trunnions made non-circular in cross section, whereby to provide projections to engage abutments in the draw-head, substantially as set forth. 2nd. In a car coupling, the combination of the draw-head and the armed dog supported to rock and slide therein, the said draw-head being provided with abutting or bearing portions for engagement by the dog as the latter is rocked, whereby the rocking of the dog may effect the sliding thereof, substantially as set forth. 3rd. In a car coupling, the combination of the draw-head, the armed dog, the lock for securing such dog in coupled position, and the gravity block arranged in rear of the said dog, substantially as set forth. 4th. In a car coupling, a gravity block adapted to support the link in elevated position, having its under side rounded into rocker shape and having its front end bifurcated and formed to bear upon the arms of the link, substantially as set forth. 5th. In a car coupling, having an armed dog and a gravity block, and in combination with such parts, the draw-head having the front lower wall of its throat provided centrally with a notch for the arm of the dog, and with portions on opposite sides of such notch to form a fulcrum for the link, the gravity block being arranged to bear upon the link in rear of such fulcrum, substantially as set forth. 6th. In a car coupling, the combination of the draw-head, the armed dog constructed to slide and rock in the draw-head, and a gravity block operating in the draw-head, the armed dog being adapted to secure the link and the gravity block to support such link, substantially as set forth. 7th. In a car coupling, the combination of the draw-head, and the armed dog having its trunnions supported to rock and slide in said draw-head, substantially as set forth. 8th. In a car coupling, the combination of the draw-head, having a support for the armed dog, which support inclines downward to its rear end, and the armed dog arranged to rock and slide on said support, the inclined portions of the latter serving to throw the dog backward, substantially as set forth. 9th. In a car-coupling, a coupling dog having an arm to secure the link, a tripping arm for engagement by the link, and a third arm or extension adapted to lock the dog from upward movement in the coupled position of the parts, substantially as set forth. 10th. The combination of the draw-head, having ledges for the trunnions of the coupling dog inclined downward toward their rear ends, and having a bearing for the gravity block inclined upward toward the rear, the dog having its trunnions fitted to said ledge, and the gravity block supported in rear of such dog and constructed to operate in connection therewith, substantially as set forth. 11th. In a car coupling, the combination of the draw-head having a throat or link mortise, the dog journalled loosely within said throat, and the gravity block fitted loosely in the throat, and the dog being provided with an arm to receive the bearing or weight of the gravity block, and all being substantially as described, whereby both the dog and block serve to hold each other in the draw-head, substantially as set forth. 12th. In a car coupling, the combination of the draw-head, the armed coupling dog constructed to secure the link, the lock slid vertically in the drawhead and arranged to secure the dog in coupled position, and the lever for operating said lock, substantially as set forth. 13th. In a car coupling, the combination of the draw-head having a top casing and formed with an opening or offset at the rear end of such casing, the coupling dog, the lock for said dog arranged in such casing, the lever for operating such lock also arranged in the casing and the operating connection secured to said lever and extended through the rear wall of the top casing, substantially as set forth. 14th. In a car coupling, the combination of the armed coupling dog, the gravity block arranged in rear of said dog, the sliding lock and the lever arranged to operate said lock, substantially as set forth. 15th. In a car coupling, the combination of the sliding lock bar, the double armed lever for operating the same, one arm of such lever being engaged with the lock bar and its other arm being curved or extended upward and forward, and the casing receiving said lever and lock, having its top plate or cover arranged close to the upwardly extended arm of the lever, whereby to lock the sliding lock in the coupled position of the parts, substantially as set forth.

No. 34,494. Steam Injector. (*Injecteur de vapeur.*)

Albert L. Lambert, Cleveland, Ohio, U.S., 9th June, 1890; 5 years.

Claim.—In an injector, the combination of the casing having the upper and lower overflow chambers C, C', the overflow arm or branch formed at one side of said casing, the passage-ways E, e, leading from said overflow chambers, the lower valve F having a projecting spindle, and the upper valve wherein said spindle works, said valves being seated over the respective openings of the passage ways E, e, substantially as set forth.

No. 34,495. Dress Skirt Elevator.*(Relève-jupon.)*

George W. Way, Portland, Me., U.S., 9th June, 1890, 5 years.

Claim.—1st. The herein described support for dress skirts, consisting of a tube secured vertically to the upper part of the dress skirt, and having in its upper end a notch or recess, and a cord attached to said skirt and passing through said tube, and having enlargements whereby it may be retained in said notch, substantially as described. 2nd. The herein described support for dress skirts, consisting of a tube secured vertically to the upper part of the dress and having a notch or recess in its upper end, and a cord secured to said skirt and passing through said tube, and having annular flanges secured to it at intervals, whereby it is retained in said notch, substantially as shown.

No. 34,496. Cut-Off Valve Gear for Engines.*(Appareil de soupape d'arrêt.)*

Andrew L. Harrison, Wilmington, N. C., U. S., 9th June, 1890; 5 years.

Claim.—1st. The combination, with the rock-shaft of an engine, of parallel spaced arms secured to one end of said rock-shaft, provided with aligning and straight rectangular slots near their lower ends, an eccentric pin sliding in said slots, a nut also sliding in the slots below the said pin, rods projected downward through the arms and the pins and engaging the nuts, and a means, substantially as shown and described, for manipulating said rods, whereby provision is made for changing the lead of the valves, and also the lift or throw of the said valves, as set forth. 2nd. The combination, with the rock-shaft of an engine and spaced arms secured at one end, provided with an aligning rectangular slot and a vertical bore extending longitudinally from end to end, of an eccentric pin sliding in said slots, a nut also sliding in the slots below the pin, rods threaded at their lower ends and projected through the bore of the arms and engaging said nuts, pinions attached to the upper end of said rods, and a hand-wheel journaled in the rock-shaft above the pinion and provided with a gear wheel meshing with the same, as and for the purpose specified. 3rd. The combination, with the rock-shaft of an engine and spaced arms secured at one end, provided with an aligning rectangular slot and a vertical bore extending longitudinally from end to end, of an eccentric pin sliding in said slots, a nut also sliding in the slots below the pin, rods threaded at their lower ends and projected through the bore of the arms and engaging said nuts, pinions attached to the upper end of said rods, a hand-wheel journaled in the rock-shaft above the pinions and provided with a gear wheel meshing with said pinions, and means, substantially as described, for locking the eccentric pin in a fixed position, as and for the purpose specified.

No. 34,497. Dough Kneading Machine.*(Pétrin mécanique.)*

Bryant H. Melendy, Battle Creek, Mich., U. S., 9th June, 1890; 5 years.

Claim.—1st. In a dough kneading machine, the combination, with a frame open at top and bottom, of a roller journaled therein, a partition held in the frame in front of the roller, and adjustable plate held on the said partition and having its lower end projecting below the said partition, and a front board secured between the ends of the said frame and extending with its lower edge onto the rim of the said roller, substantially as shown and described. 2nd. In a dough kneading machine, the combination, with a frame open at top and bottom, of a roller journaled therein, a partition held in the frame in front of the roller, and adjustable plate held on the said partition and having its lower end projecting below the said partition, a front board secured between the ends of the said frame, and extending with its lower edge onto the rim of the said roller, and a scraper held on the under side of the said roller, substantially as shown and described. 3rd. In a dough kneading machine, the combination, with a frame provided with end and cross pieces, of a roller journaled in the said frame, blocks held on top of the roller trunnions, and a front board pivoted between the said ends and on which the said blocks are pivoted, substantially as shown and described. 4th. In a dough kneading machine, the combination, with a frame provided with end and cross pieces, of a roller journaled in the said frame, blocks held on top of the roller trunnions, a front board pivoted between the said ends and on which the said blocks are pivoted, and means, substantially as described, for locking the said blocks and frontboard in place, as set forth. 5th. In a dough kneading machine, the combination, with a frame provided with end and cross pieces and open at the top and bottom, of a transversely inclined partition held between the said ends, a metallic plate held in front of the said partition, a roller journaled in the said ends, a front board pivoted between the said ends and extending with its lower edge to the said roller, and a scraper held on the underside of the said roller, substantially as shown and described. 6th. In a dough kneading machine, the combination, with a frame provided with end and cross pieces and open at the top and bottom, of a transversely inclined partition held between said ends, a metallic plate held in front of the said partition, a roller journaled in the said ends, a front board pivoted between the said ends and extending with its lower edge to the said roller, a scraper held on the underside of the said roller, and in contact with the lower part of the said roller, and blocks pivoted on the said front board and fitting into recesses in the said ends to hold the roller in place, substantially as shown and described.

scribed. 8th. In a dough kneading machine, the combination, with a frame provided with end and cross pieces, and open at the top and bottom, of a transversely inclined partition held between the said ends, a metallic plate held in front of the said partition, a roller journaled in the said ends, a front board pivoted between the said ends and extending with its lower edge to the said roller, a scraper held on the under side of the said ends and in contact with the lower part of the said roller, blocks pivoted on the said front board and fitting into recesses on the said ends to hold the roller in place, and hooks held on the said blocks and adapted to be hooked on pins on the said ends, substantially as shown and described. 9th. In a dough kneading machine, the combination, with a frame and a roller journaled therein, of a crank arm secured on one of the trunnions of the said roller and provided with crossing slots, and a crank handle provided with a projection adapted to engage one of the said crossing slots, substantially as shown and described. 10th. In a dough kneading machine, the combination, with a frame and a roller journaled therein, of a crank arm secured on one of the trunnions of the said roller and provided with crossing slots, a crank handle provided with a projection adapted to engage one of the said crossing slots, and a hook formed on one end of the said projection, substantially as shown and described. 11th. In a dough kneading machine, the combination, with a crank arm secured to the roller trunnion and provided with slots crossing each other at right angles, of a crank handle provided with a projection adapted to engage one of the said slots, substantially as shown and described. 12th. In a dough kneading machine, the combination, with a crank arm secured to the roller trunnion and provided with slots crossing each other at right angles, of a crank handle provided with a projection adapted to engage one of the said slots, and a hook formed on one end of the said projection to engage the back of the said crank arm, substantially as shown and described. 13th. In a dough kneading machine, the combination, with a frame and a roller journaled therein having one of its trunnions provided with a conical offset, having longitudinal recesses F^3 , of a crank arm provided with crossing slots and with ribs K^3 , substantially as shown and described.

No. 34,498. Flue Scraper. *(Grattoir de carneaux.)*

Veitus Radspinner, Cincinnati, Ohio, U.S., 9th June, 1890; 5 years.

Claim.—1st. In a flue scraper, the combination, of the curved blades A, B , the resilient shanks a, a , connecting said blades to the head C , leaving a comparatively open space between, the conical backing frame E , screw cap follower d , and handle D , substantially as set forth. 2nd. In a flue scraper, the combination of the curved shovel blades A, B , having resilient shanks, and bolted or riveted to a handle section C , the washer w , of resilient material, the backing frame consisting of the annular disk e , hub e^2 , and connecting ribs e^1 , the screw cap follower d , and handle D , substantially as set forth.

No. 34,499. Carpet Fabric. *(Tissu à tapis.)*

James S. Cooke, and John W. Brook, Liversedge, Eng., 9th June, 1890; 5 years.

Claim.—A carpet fabric wherein the four colours of its weft are each brought up to the surface and each form a solid colour of weft, the warp threads being so interwoven with the weft that the whole forms a solid fabric of carpet, substantially as described.

No. 34,500. Telephone Exchange System.*(Système d'échange téléphonique.)*

The Western Electric Company, (assignee of Charles E. Scribner,) Chicago, Ill., U.S., 9th June, 1890; 5 years.

Claim.—1st. The combination of a metallic circuit with a branch circuit containing the operator's telephone and a switch included in the metallic circuit, whereby said metallic circuit may be connected to and disconnected from said branch circuit, substantially as specified. 2nd. A metallic circuit in combination with a branch circuit to ground at the central office, including a telephone and a switch at the subscriber's station, whereby the telephone of said subscriber may be connected into a circuit branched from the metallic circuit to ground at the subscriber's station. 3rd. The united metallic circuits of two subscribers, in combination with a branch circuit to ground including an annunciator and battery and switches, whereby either subscriber may ground the metallic circuit and thereby close the battery and drop the annunciator, substantially as set forth. 4th. The combination of a series of metallic circuits, each extending from the central office to a different subscriber's station, and a branch line to ground at the central office including the operator's telephone and switches at the central office, one switch included in each metallic circuit, said switches normally connecting their respective metallic circuits with the said branch line. 5th. A spring jack consisting of the frame r , insulated point s , and the insulated spring or lever adapted to make contact with said frame and contact point. 6th. In a subscriber's telephone outfit for metallic circuit lines, the signal bell and telephone in combination with a branch circuit to ground, and switches and connections, whereby the subscriber may bring the telephone and signal bell alternately into and out of the line circuit and may remove the telephone from the line circuit and connect it into said branch circuit. 7th. A loop plug in combination with a switching device, said switching device being adapted to receive said loop plug and having three contact pieces, said contact pieces being electrically connected in the switching device when the plug is not in it, and being electrically disconnected in the switching device when the plug is in it. 8th. A loop plug in combination with a switching device, said switching device being adapted to receive said loop plug, and provided with three contact pieces, two of which are line contact pieces, said contact pieces being in electric connection with the third contact piece when the plug is not in the switching device, and being electrically disconnected from said third contact piece when the plug is in the switching device. 9th. The combination of a loop plug with a switching device adapted to receive said loop plug, the switching

device having two insulated line connections and a third insulated connection, and one of said insulated line connections being normally in electric contact with the other line connection and also with said third insulated connection, and being removed from electric contact with said line connection and said third connection when the plug is inserted. 10th. The combination of a loop plug with a switching device, the loop plug having two insulated connections and a third insulated connection, and adapted to receive the loop plug, the other line connection being normally in electric contact with when the plug is not inserted and with said third insulated connection being disconnected from each other and from said third insulated connection and each connected with a corresponding insulated connection of the loop plug. 11th. In the central office of a telephone exchange, two or more switching devices, each of which has two insulated contact pieces connected to the two terminals of a metallic circuit telephone line and a third insulated contact piece connected with a ground line common to said switches, and loop plugs with flexible cords adapted to be placed in and removed from said switching devices, in combination with an operator's telephone in said ground line, whereby, when a loop plug is inserted into any switching device, the operator's telephone is disconnected from the line connected with said switching device, said operator's telephone being again automatically connected to said line when the plug is removed. 12th. In the central office of a telephone exchange, a loop plug said switching device having two insulated contact pieces connected to the two terminals of a metallic circuit telephone line, and also a third insulated contact piece connected to a ground line, said third contact piece being electrically connected with the other contact pieces when the plug is not in the switching device and being electrically disconnected from said pieces when the plug is in said ground line, whereby, when the plug is in the switching device the operator's telephone is disconnected from the line terminals and when the plug is not in the switching device the operator's telephone is in electrical connection with both of said line terminals. 13th. In the central office of a telephone exchange, loop plugs with two or more switching devices, each of which has two insulated line contact pieces connected to the two terminals of a metallic circuit telephone line, and also each provided with a third insulated contact piece which pieces are respectively in electrical connection with said line contact pieces when a loop plug is not in the switching device, said third pieces being disconnected from said line contact pieces when a loop plug is in the switching device, and an operator's telephone in a ground line connected to said third insulated contact pieces, whereby, when a loop plug is in either switching device the operator's telephone is disconnected from both terminals of the line connected thereto, and when the loop plug is not in the switching device the operator's telephone is connected to both terminals of said line. 14th. A subscriber's telephone circuit, said circuit extending from the central office to the subscriber's office, and thence back to the central office, a telephone in said circuit at the subscriber's office, a switching device by which said telephone may be removed from said circuit and connected into a branch circuit, one end of which is connected to said subscriber's circuit and the other end of which is connected with the ground, in combination with a switching device and an operator's telephone at the central office, the operator's telephone being connected on one side to the ground and on the other side to the switching device, the switching device being connected to the two terminals of the subscriber's circuit, whereby the subscriber, by operating the switching device at his station, may bring his telephone into circuit with the operator's telephone, and whereby the operator by operating the switching device at the central office may disconnect the subscriber's circuit from his telephone and connect it with another subscriber's circuit. 15th. The switching device, consisting of a frame provided with a plug hole of combination depth, a spring or lever and a third contact point, in combination with a loop plug adapted to lift the spring or lever from the contact point and also at the same time from contact with the frame, whereby the lever and frame may be connected respectively to different contacts of the loop plug, and when the plug is removed, automatically connected to the third contact point. 16th. A metallic circuit telephone line terminating in the central office of an exchange, in combination with a branch line at the central office containing the operator's telephone, said branch line being grounded on one side of the telephone, and being normally connected on the other side of the telephone to both terminals of said telephone line, and a switching device whereby said branch line may be disconnected from the terminals of said telephone line. 17th. The combination of two or more metallic circuit telephone lines centering in the central office of a telephone exchange, with a branch line at the central office containing the operator's telephone, said branch line being grounded on one side of the telephone and normally connected on the other side of the telephone with all of said lines, and switching devices whereby any of said telephone lines may be disconnected from said branch line. 18th. The combination of two or more telephone exchange lines centering in the central office of a telephone exchange, with a branch line at the central office containing the operator's telephone, said branch line being grounded on one side of the telephone and normally connected on the other side of the telephone with all of said telephone lines and switching devices, whereby any of said telephone lines may be disconnected from said branch line and any two of said telephone lines may be looped together in metallic circuit for conversation. 19th. In a telephone exchange system, a metallic circuit telephone line normally grounded at the central office through an operator's telephone, in combination with a switch at the subscriber's office, whereby the subscriber may shall embrace the ground, his own and the operator's telephone, and system, two or more telephone line. 20th. In a telephone exchange grounded at the central office through an operator's telephone, in combination with switches one at each subscriber's office, whereby any subscriber may for conversation with the central office establish a ground circuit which shall embrace his own and the operator's

telephones and part or all of his telephone line. 21st. In a telephone exchange, two or more metallic circuit telephone lines, all normally grounded at the central office through an operator's telephone, in combination with switches, one at each subscriber's station, whereby any subscriber may for conversation with the central office establish a ground circuit which shall embrace his own and the operator's telephone and part or all of his telephone line, and switching devices at the central office, one for each of said lines, whereby the operator may connect together any two of said lines for exchange communication.

No. 34,501. Interchangeable Socket for Agricultural Tool Handles. (*Douille mobile pour les manches des instruments aratoires.*)

William J. Somerville, Brantford, Ont., 10th June, 1890; 5 years.

Claim.—In an agricultural tool handle, the interchangeable socket A, having the latch C, and spring D, for holding the shank B, of an agricultural tool, substantially as and for the purpose hereinbefore set forth.

No. 34,502. Cork Screw. (*Tire-bouchon.*)

William A. Williamson, Newark, N. J., U. S., 10th June, 1890; 5 years.

Claim.—1st. The manufacture of a cork screw by, first, forming a strip of metal with an eyelet or rivet at one end, adapted to enter a hole in the other end thereof, bending the said strip to form a loop or eye, and securing the ends of the said strip together, with the loop or eye of the worm or screw between them, by means of the said eyelet or rivet, substantially as hereinbefore described. 2nd. A cork screw formed of a strip of metal bent so that its ends are brought toward each other, a worm or screw, the eye of which is held between such ends, and a riveted connection securing same together, all as herein set forth. 3rd. A cork screw consisting of a handle, the ends of which are provided with hollow posts formed integrally on said ends, the ends of the posts abutting against each other to form a bearing, an inner or supplemental post or rivet arranged within said bearing formed by the abutting posts on the ends of the handle, and a worm or screw provided with an eye or loop encircling said bearing, for the purposes set forth.

No. 34,503. Car Coupling. (*Attelage de chars.*)

Alexander McDougald, Madawaska Station, Ont., 10th June, 1890; 5 years.

Claim.—1st. The combination, with a link and pin coupling head, of a swinging link lifter carried by the head, and a swinging operating lever carried by the head and adapted to be swung by the opposing coupling head, to swing up said lifter, and hence raise the link and guide the same into the opposite head, substantially as described. 2nd. In a car coupler, the combination, with a link and pin coupling head, of a swinging pin holding lever carried by the same, and provided with an automatic pin dropping device, and a swinging link lifter operated by said lever, said pin dropping device and said lever adapted to be operated by the opposing coupling head, as set forth. 3rd. The combination, with a coupling head, of an operating lever or frame extending above and below the head and pivoted within its length to swing back and forth in a vertical plane, said lever being provided with means above the head to carry and automatically drop a coupling pin, and a link lifter pivoted at its rear end at the under side of the head, and having its front end supported by said lever and adapted to be swung by the lever to engage and raise the link, as set forth. 4th. A swinging operating lever carried by a coupling head and extending above and below, and adapted to have its upper end swing in front of the head, and a link lifter on the under side of the head and pivoted at its rear end, and having its free end bent up and adapted to extend up in front of the head and engage the link, the free end of the link being supported and swung by the lower end of the lever, substantially as described. 5th. A coupling head having a pin hole, in combination with a lever or frame above the extending head and hole and having a cross bar provided with a recess to receive the pin, and a spring arm to hold the pin in the recess and in readiness to drop into said hole, said arm being provided with a projection extending forwardly through a buffer on said frame, for the purpose set forth.

No. 34,504. Manufacture of Stove Pipes.

(*Fabrication des tuyaux de poêles.*)

Thomas Davidson, Montreal, Que., 10th June, 1890; 5 years.

Claim.—1st. A stove pipe blank having one edge formed into a double fold so as to afford a seat for the other edge, a stud, studs, or transverse locking devices, carried by or formed in such fold, and slots formed in the introduced edge, in which such studs lock, all as herein set forth and for the purposes described. 2nd. A stove pipe length, having inside one end, two or more lengths of fold, forming seats or pockets and connected to pipe by rivets, and corresponding slots formed in the other end, all as and for the purposes herein set forth.

No. 34,505. Steam Motor for Pumps.

(*Moteur à vapeur pour les pompes.*)

Henry O. Beatty, Sacramento, Cal., U. S., 10th June, 1890; 5 years.

Claim.—In a steam motor for pumps, the combination of a main cylinder, a piston mounted therein and having its rod connected with the pump plunger, a steam inlet port and a steam exit port at the lower end of the cylinder and communicating therewith, vertically

movable tubular valve rods passing down through the steam chest, fixed stop bars above and below said rods for limiting their movement, valves carried by the rods for controlling the inlet and exit ports of the steam chest, movable stems passing completely through the tubular valve rods and connected at their lower ends with the pump plunger, fixed collars upon the stems, and the springs N and N' within the lower and upper ends of the tubular valve-rods, with which the collars of the movable stems come in contact to operate the valve rods and their valves, substantially as described.

No. 34,506. Machine for Grinding Bones.

(*Machine à broyer les os.*)

Franklin W. Mann and Clarence H. Farrington, Milford, Mass., U.S., 10th June, 1890; 5 years.

Claim.—1st. In a machine for grinding or cutting bone, the cylinder *a*, rotatable bottom plate and knives carried by it, and means, substantially as described, for rotating said bottom plate, combined with the platen or follower *e*, yoke *e'*, and cross bar or handle *f*, and the fixed support or rod *b'*, having the screw-threaded end *f'*, whereby the platen may be moved vertically, substantially as described. 2nd. In a machine for grinding or cutting bone, the fixed cylinder *a*, having the fixed division wall extended from the top to near the bottom of said cylinder, combined with the rotatable bottom plate and knives carried by it, and means, substantially as described, for rotating the bottom plate, the split platen or follower, slotted to receive the division wall, and means, substantially as described, for moving it independently of the bottom plate, substantially as described. 3rd. In a machine for grinding or cutting bone, the fixed cylinder *a* and partition wall *a'*, combined with the rotatable bottom plate, knives carried by it and inclined with relation thereto, and means, substantially as described, to rotate said plate, the split platen or follower, its yoke, and the cross bar *f* and fixed support *b'*, having the screw-threaded end *f'*, as and for the purpose set forth. 4th. In a machine for grinding or cutting bone, the fixed cylinder *a* and division wall *a'* combined with the rotatable bottom plate *b*, having a series of holes therein at different distances from its centre, lugs *d* adjacent to said holes, adjustable slotted knives carried by said lugs, inclined with relation to the bottom plate, set screws *d'*, *d''*, to adjust said knives, and means, substantially as described, for rotating said plate, and the slotted platen or follower, its yoke and cross bar, and the fixed support *b'*, having the screw-threaded end *f'* substantially as described.

No. 34,507. Process for Preserving Wood Artificially against Decay. (*Procédé de conservation du bois de la carie.*)

Octave Chanute, Chicago, Ill., U.S., 10th June, 1890; 5 years.

Claim.—1st. The herein described mode for treating a timbered structure to preserve it from decay, which consists in applying the wood preservative between the opposing surfaces of the joints of the structure after its erection, substantially as and for the purpose specified. 2nd. The herein described mode of preserving a timber joint, which consists in sealing said joint externally after erection, and then introducing the wood preservative between the opposing surfaces of the joint, substantially as and for the purpose specified. 3rd. The herein described mode of preserving a timber joint, which consists in sealing said joint externally after erection, saving a passage for the introduction of the wood preservative, and then introducing said wood preservative through said passage between the opposing surfaces of the joint, substantially as and for the purpose specified.

No. 34,508. Waggon Skein. (*Fusée d'essieu.*)

John Algoe and George H. Turner, Flint, Mich., U.S., 10th June, 1890; 5 years.

Claim.—The combination of the axle A and truss rod E, of the skein B, provided with the drop flange H, substantially as described.

No. 34,509. Window. (*Fenêtre.*)

Jonas P. Erickson (assignee of John P. Clark, Jr.), Jackson, Mich., U.S., 10th June, 1890; 5 years.

Claim.—1st. The combination, with a window frame, having vertical head-strips attached, and projecting from the sides oppositely, of two sash frames having their horizontal meeting edges hinged to permit inward folding of either sash frame, a spring catch for the top sash latching upwardly, a spring catch for the lower sash latching downwardly, and two slotted links which are pivoted to the sides of the window frame and have sliding engagement with the upper sash frame, substantially as set forth. 2nd. The combination, with a window frame and two sash frames hinged together, the meeting edges of the sash frames being rabbeted to afford mating offset shoulders, and a spring catch for each sash frame, of two slotted link bars pivoted to the window frame and to the upper sash frame, so that the upper pivots may slide in the link slots, substantially as set forth. 3rd. The combination, with the window sash, of the locking strips G, substantially as set forth. 4th. The combination, with the two window sash frames, of the strip I, G and blind F, substantially as set forth. 5th. The combination, with the window frame and window sash frames, of the beads *a*, *a'*, and screen E, substantially as set forth.

No. 34,510. Ink for Printing, Lithographing, Engraving, etc. (*Encre à imprimer, lithographier, graver, etc.*)

Oliver G. Holt, Louisville, Ky., U.S., 11th June, 1890; 5 years.

Claim.—1st. An ink for type and plate printing and general impression work, of which residuum a product obtained from crude petroleum by distillation or by distillation and filtration, is the essen-

tial constituent. 2nd. An ink for type and plate printing and general impression work, composed of residuum, a product obtained from crude petroleum by distillation, or by distillation and filtration, and resin or resinous gums. 3rd. An ink for type and plate printing and general impression work, composed of residuum, a product obtained from crude petroleum by distillation, or by distillation and filtration, resin or resinous gums, and a pigment or pigments. 4th. The method of printing, lithographing, etc., by means of the ink herein claimed and described.

No. 34,511. Cigar Box. (*Boîte à cigares.*)

William Beck, Montreal, Que., 12th June, 1890; 5 years.

Claim.—1st. The combination, with an unlined Spanish cedar box, of a flap or cover being a veneer of similar material, as and for the purposes described. 2nd. The combination, with an unlined Spanish cedar cigar box, of veneers for wrapping the several bunches of cigars contained therein, all as herein set forth and for the purposes described.

No. 34,512. Electric Motor for Street Cars.

(*Moteur électrique pour chars urbains.*)

Wilber S. Salisbury, Chicago, Ill., U.S., 12th June, 1890; 5 years.

Claim.—1st. In a motor for street cars, the car frame and the box for containing the battery, in combination with a longitudinal support attached to said frame at one end thereof, for removably suspending said box below the frame, and a sliding anti-friction connection between said box and support, substantially as described. 2nd. In a motor for street cars, the car frame track and a pivot connection between said track and frame, about the centre of length of said track, in combination with a box for containing the battery supported upon and removably suspended below the frame by said track, substantially as described. 3rd. In a motor for street cars, the car frame, a track and a central pivot connection between said track and the frame, in combination with a box for containing the battery supported upon and removably suspended below the frame by said track, guide plates and a pin and slot connection between said plates and the track intermediate the centre and ends thereof, substantially as described. 4th. In a motor for street cars, a car frame, a track, a central pivot connection between said track and the frame, in combination with a box for containing the battery, and an anti-friction connection between said box and track, whereby said box is supported upon and removably suspended below the car frame by said track, substantially as described. 5th. In a motor for street cars, the car frame, a track and a central pivot connection between said track and frame, in combination with a box for containing the battery, a detachable anti-friction connection between said box and the track, and a lock device for securing said box relative to the track, substantially as described. 6th. In a motor for street cars, the car frame, a track and a central pivot connection between said track and frame, in combination with a box for containing the battery, a detachable anti-friction connection between said box and the track, and an adjustable lock device for securing said box relative to the track, substantially as described. 7th. In a motor for street cars, the car frame, the axle, and a casing loosely journalled and supported upon said axle, in combination with one or more frames secured to said casing, motors mounted in said frames, a gear connection between the motors and axles, a pulley secured to the car frame, and a flexible or yielding guide rod secured at its ends to said frames and working over said pulleys, substantially as described. 8th. In a motor for street cars, the car frame, the axle and a casing loosely journalled and supported upon said axle, in combination with one or more frames secured to said casing, motors mounted in said frame, a gear connection between said motors and axle, a pulley secured to the car frame, a flexible or yielding guy secured at its ends to said frame and working over said pulley, and the laterally yielding opposing guys secured at their ends respectively to said frames and the sides of the car frame, substantially as described. 9th. In a motor for street cars, the axle and one or more frames loosely journalled and supported upon said axle, in combination with one or more motors mounted on said frames, a gear connection between said motor and the axle, a pulley secured to the car frame, and a flexible or yielding guy rod secured at the ends of said frames and working over said pulley, substantially as described.

No. 34,513. Musical Instrument called "Lithophon." (*Instrument de musique appelé "Lithophone."*)

Reinhold Händel, Leipzig, Germany, 12th June, 1890; 5 years.

Claim.—1st. A new tone producer, consisting of plates or strips of solid veinless stone similar to that employed for lithographic purposes, substantially as set forth. 2nd. A new tone producer, consisting of plates or strips of solid veinless stone, which plates or strips are used instead of the tongues, strings and the like, as heretofore used and arranged to act substantially in the manner and for the purposes hereinbefore described. 3rd. The combination of the new tone producer, consisting of solid veinless lithographic stones, with an apparatus or contrivance setting in vibratory motion these plates by rubbing or striking same, substantially as described.

No. 34,514. Braking Mechanism for Railway Cars. (*Mécanisme de mise en action des freins de chemins de fer.*)

Jacob E. Loughridge, Philadelphia, Penn., U.S., 12th June, 1890; 15 years.

Claim.—1st. The combination of the two levers forming part of the single set of brake operating devices on the car, two power cylinders placed end to end and each having a piston and piston rod, the rod of one cylinder projecting in one direction and acting on one brake lever, and that of the other cylinder projecting in the oppo-

site direction and acting upon the other brake lever, the air pressure or vacuum pipe, and valved connections, whereby one or both of the cylinders may be placed in communication with said pipe, and the brakes thus applied by pressure in one or both of the cylinders, substantially as specified. 2nd. The combination of the two levers forming part of the single set of brake operating devices on the car, each having a piston and piston rod, the rod of one cylinder projecting in one direction and acting on one brake lever, and that of the other cylinder projecting in the opposite direction and acting upon the other brake lever, the air pressure or vacuum pipe and valved communication, whereby either of the cylinders may be placed in communication with said pipe and the brakes applied by pressure in either of the cylinders, substantially as specified. 3rd. The combination of the two levers forming part of the single set of brake operating devices on the car, two power cylinders of differential diameter placed end to end and each having a piston and piston rod, one brake lever, and that of the other cylinder projecting in the opposite direction and acting upon the other brake lever, the air pressure or vacuum pipe and valved connections, whereby either or both of the cylinders may be placed in communication with said pipe and the brakes applied by pressure in either or both of the cylinders, substantially as specified. 4th. The combination of the two levers placed end to end and each having a piston and piston rod, the rod of one cylinder acting on one brake lever, and that of the other cylinder acting on the other brake lever, a spring connection whereby the levers are drawn together and against the piston rods, the air pressure or vacuum pipe and valved connections between said pipe and the cylinders, substantially as specified. 5th. The combination of the brake lever, the brake applying cylinder having a piston and piston rod free to turn independently of the brake lever, and means for providing communication between the brake cylinder and an air pressure or vacuum pipe on the car, substantially as specified. 6th. The combination of the brake lever, the power cylinder having a piston with rod free from connection with the brake lever, an air pressure or vacuum pipe on the car, and means for providing communication between said pipe and the cylinder, substantially as specified. 7th. The combination of the brake lever, the power cylinder having a piston with rod bearing upon, but free from connection with, the brake lever, an air pressure or vacuum pipe on the car, a communication between said pipe and the cylinder, the hand brake shaft and a connection between the brake lever and said hand brake shaft, substantially as specified. 8th. The combination of the two levers of the brake mechanism, two power cylinders, each having a piston and piston rod, that of one cylinder acting upon one brake lever and that of the other upon the other brake lever, and both rods being disconnected from their respective levers, an air pressure or vacuum pipe, and a valved communication between said pipe and the cylinders, substantially as specified. 9th. The combination of the two levers of the braking mechanism, the two power cylinders, each having a piston and piston rod, one rod acting upon one brake lever and the other upon the opposite brake lever, but both disconnected from said levers, an air pressure or vacuum pipe on the car, a valved communication between the same and the cylinders, the hand brake shaft and a connection between each brake lever and said brake shaft, substantially as specified. 10th. The combination of the brake lever, the power cylinder having a piston rod bearing upon said brake lever but disconnected therefrom, a projection on the cylinder serving as a guide for the lever, an air pressure or vacuum pipe on the car and a valved communication between said pipe and the cylinder, substantially as specified. 11th. The combination of a braking cylinder having power actuated piston and piston rod with braking mechanism acted on by said piston rod, one of the levers of said mechanism being movable away from one of its primary bearings and a filling piece inserted between the lever and the piston rod, substantially as specified. 12th. The combination of a braking cylinder having power actuated piston and piston rod, levers of said mechanism acted on by said piston rod, one of its primary bearings to take up slack without moving the piston rod, and a filling block inserted between said lever and said primary bearing, said block having portions of different width, substantially as specified. 13th. The combination of the power cylinder and its movable away from the same, and a filling block inserted between said piston rod and the piston rod to take up slack without movement of the power cylinder, substantially as specified. 14th. The combination of the power cylinder and its piston and piston rod, with the brake take up slack without movement of the rod, and a filling piece inserted between the rod and lever and having portions of different width, substantially as specified. 15th. The combination of the two power cylinders, each having a piston and piston rod, with the two other piston rod, but each movable by one piston rod and the other by the permit of the insertion of a filler to take up slack without movement of the piston rod, substantially as specified. 16th. The combination of the two cylinders, each having a brake operating piston rod, the air pressure or vacuum pipe, a valved communication between said pipe and the two cylinders, and a connection by the valve will be automatically moved to different positions depending upon whether the car is loaded or light, substantially as specified. 17th. The combination of the two cylinders, each having a brake operating piston and piston rod, the air pressure or vacuum pipe, a valved communication between said pipe and the two cylinders, and a catch whereby said connection, when moved to the position corresponding with the loaded car, is held and prevented from moving backward, substantially as specified. 18th. The combination of the two cylinders, each having a brake operating piston and piston rod, the air pressure or vacuum pipe, a valved communication between said pipe and the two cylinders, a connection between said valve and a spring-supported portion of the car, a

catch for retaining said connection in the position it assumes when the car is loaded, and means whereby the door of the car is caused to control the operation of said catch, substantially as specified. 19th. The combination of the two cylinders, each having a brake operating piston and piston rod, the air pressure or vacuum pipe, a valved communication between the same and the two cylinders, a connection between said valve and a spring-supported portion of the car, said connection having an elastic section, and a catch whereby the connection is retained in the position it assumes when the car is loaded, substantially as specified. 20th. The combination in braking mechanism for railroad cars, of a power cylinder with piston and piston rod, the brake beams, lever mechanism acted on by said piston rod and connected to the brake beams, and a swinging yoke or frame carrying said lever mechanism, substantially as specified. 21st. The combination of the brake beams, the brake levers connected thereto, a swinging frame carrying said brake levers, two cylinders, each having a piston and piston rod, the rod of one cylinder acting upon one brake lever, and that of the other cylinder upon the other brake lever, an air pressure or vacuum pipe on the car, and a valved connection between said pipe and the cylinders, substantially as specified.

No. 34,515. Slop Jar and Commode.

(Pot à eau sale et siège d'aisance.)

Josiah Shepherd, North Louisburg, Ohio, U.S., 13th June, 1890; 5 years.

Claim.—The combination, with the cover, the paper cylinder mounted thereon and having its edges overlapping and spaced apart to form a slot, and a fixed knife, of the perforated end caps, the paper shaft journaled therein, the knobs on the ends of the shaft, and the web upon the shaft, and having its leading end passed through the slot and under the knife, substantially as specified.

No. 34,516. Grate. (Grille.)

Frances M. Goodall, Philadelphia, Penn., U.S., 13th June, 1890; 5 years.

Claim.—1st. A grate consisting of a frame having the guide rods C and the ears B, the latter secured to and extending outward from said rods, grate sections having eyes in adjacent ends, and a detachable support having bars adapted to pass through said eyes and sustain said sections on said frame, said sections having hooks E adapted to bear on said guide rods C, serving as hinges for said sections, said parts being combined substantially as described. 2nd. The combination of the guide rods C, having ears B secured thereto, two grate sections formed of bars and having eyes at adjacent ends, the support H, having a head and two bars, the latter adapted to pass through said eyes and sustain said sections, and hooks on said sections bearing on said guide rods, said guide rods having flattened portions on which said support H is adapted to move, substantially as described. 3rd. A grate consisting of an outer frame, grate sections formed of bars hinged to said outer frame, and a detachable support having bars inserted in the eyes at the inner end of the said sections, and having its ends resting on flattened portions of the outer frame, said parts being combined substantially as described.

No. 34,517. Gas Burner. (Bec à gaz.)

Albert G. Morey, La Grange, Ill., U.S., 13th June, 1890; 5 years.

Claim.—1st. The herein described gas fixture, consisting of the arm or basket, the orifice connected thereto, the cylindrical chamber having the depending portion connected to said orifice, the plug fitting in the upper end of the chamber, the conical spreader fitting in the plug and having the downwardly inclined rim, the burner body consisting of the plate having the flanges at the upper and lower ends and the plate secured in place by said flanges, and the chimney holder having the inner upturned edge supported on the body and the outer inclined edge for surrounding the lower edge of the burner, substantially as described. 2nd. In a gas burner, the combination of the cylindrical chamber, the burner communicating therewith having the flange to the lower end thereof, the plug fitting in the said chamber, the conical spreader fitting in the plug and having the downwardly inclined rim, the chimney holder supported on the flanges of the burner and having the inner rim surrounding the burner and the outer inclined peripheral rim surrounding the chimney, substantially as and for the purpose hereinbefore set forth.

No. 34,518. Cuspidor. (Crachoir.)

John J. Parsons, Brooklyn, N.Y., U.S., 13th June, 1890; 5 years.

Claim.—1st. In a cuspidor, a vessel or slop jar for temporary use, combined with a frame in which the vessel may be seated and supported in operative position, such frame having an open top through which the vessel may be inserted into the frame and withdrawn therefrom, and having an open bottom exposing the top of the frame, whereby the vessel may be ejected from the top of the frame by pushing upon the bottom of the vessel for the purpose described. 2nd. A cuspidor comprising two separable parts, namely, a vessel folded into shape from suitable flexible material and adapted to retain matter deposited therein, and a permanent frame in which such vessel may be removably seated, the said vessel having its folded parts detached or unsecured together and held in operative position by means of the vessel for the purpose described for use, the vessel acting to lock and retain itself in the frame against easy displacement therefrom by virtue of its tendency to unfold, for the purpose set forth. 3rd. A cuspidor comprising two separable parts, namely, a vessel folded into shape from suitable flexible material for temporary use, and a permanent frame in which the folded vessel may be removably seated, said vessel having an inwardly and downwardly inclined apron composed of flaps folded or bent

over from the sides of the folded vessel and brought together to form an inclined apron, the folded parts of the vessel being unsecured together and held in operative positions by the frame when the vessel is seated therein, the said vessel acting to lock and retain itself in the frame against easy displacement therefrom by virtue of the tendency of the vessel to unfold, for the purpose set forth. 4th. In a cuspidor, a vessel, such as B, of flexible material folded to form and having downwardly converging sides, combined with a detachable frame, such as the frame A, having downwardly converging sides and formed with an open top for the insertion and withdrawal of the vessel, and with an open bottom for exposing the bottom of the contained vessel to give access thereto, substantially as and for the purpose set forth. 5th. In a cuspidor, the combination, with a vessel or slop jar, such as the vessel B, of flexible material folded to form and provided with a downwardly and inwardly inclined apron or shield composed of flaps or wings extending from the sides of the vessel, of a detachable frame, such as the frame A, for supporting the vessel and holding the parts thereof in operative position, substantially as and for the purpose set forth.

No. 34,519. Milk Vat. (*Boite à lait.*)

David W. Curtis, Fort Atkinson, Wis., U. S., 13th June, 1890; 5 years.

Claim.—1st. A milk vat B provided with a longitudinal inclined channel or groove in its bottom, and having the bottom inclined on opposite sides of the channel so as to drain therein, with an outlet tube at the lower end of said channel for the attachment of a stop cock or gate, substantially as shown and described. 2nd. As a new article of manufacture, a milk vat having its upper edges secured to a frame C, for supporting it in a tank, and having its bottom provided with a groove or channel of continuously increasing depth extending from end to end of the vat, with a tube for the attachment of a stop cock at its lower end, the bottom being inclined from the sides to said central channel, substantially as and for the purpose set forth. 3rd. The tank A, provided with the uprights *c*, tied together by a cross bar *e*, in combination with the rod *d* and nuts *n*, all arranged to operate substantially as and for the purpose set forth. 4th. In combination with a milk vat having its bottom constructed substantially as described, a strainer S arranged to operate as and for the purpose herein set forth.

No. 34,520. Clothes Pounder.

(*Fouloir à linge.*)

John Woolridge, Rockefeller, Ill., U. S., 13th June, 1890; 5 years.

Claim.—1st. The combination of the hollow pounder A, tube B secured to the hollow pounder A, hollow shaft D provided with an opening at or near each end for the passage of air from the inside of the hollow pounder, and a rubber E secured to the hollow shaft D and capable of being rotated with such shaft, substantially as and for the purposes specified. 2nd. The combination of the hollow pounder A, tube B, handle C, hollow shaft D, handle F, rubber E, spring G and an outlet for air from the pounder A, substantially as and for the purposes specified. 3rd. The combination, with a hollow pounder A and tube B, having a handle C, of a rotatable rubber E in said pounder, tube D, and handle F, substantially as and for the purposes specified.

No. 34,521. Bark Cutter or Stripper.

(*Machine à décortiquer le bois.*)

Jeremiah Daigneau, Peabody, Mass., U. S., 13th June, 1890; 5 years.

Claim.—1st. As an improved article of manufacture, a bark cutter having the long thin blade *a*¹, and an inwardly curved cutting edge *a*², as and for the purposes described. 2nd. A bark cutter, having a blade relatively long and thin, and having an inwardly curved cutting edge *a*², and a trimming blade opposite the bark-cutting blade, having a comparatively short and outwardly rounded cutting edge, substantially as described.

No. 34,522. Self-Opening Gate.

(*Barrrière automatique.*)

Menno Strohm, Berlin, Ont., 13th June, 1890; 5 years.

Claim.—In a self-opening and closing gate, the pivot post A, provided with a cross piece L, having sheaves K, the posts D, D', provided with brackets E and sheaves F, the gate B, pivoted at C and provided with the sheaves *m* and *m'*, the cords I and J, with their ring handles H, the cord O, the latch P and the three posts T, having sockets S, all formed, arranged and combined substantially as and for the purpose hereinbefore set forth.

No. 34,523. Lantern. (*Lanterne.*)

Albert L. France and Albert E. Yelton, Covington, Ky., U. S., 13th June, 1890; 5 years.

Claim.—1st. A signal attachment for lanterns, consisting of a supplementary glass arranged to be supported in an upright position at the side of the lantern when in use, and to be folded under the same when not in use, in the manner and for the purpose substantially as described. 2nd. A signal attachment for lanterns or lamps, consisting of a supplementary glass hinged to the outside of the lantern, in such a manner as to be folded under the same when not in use, substantially as and for the purpose described. 3rd. In a signal attachment for lanterns or lamps, a supplementary glass located upon the exterior of the globe other than hinged, substantially as described. 4th. In a signal attachment for lanterns, a supplementary glass located upon the exterior of the globe and having its lower part hinged to the lantern frame and its upper part provided with a latch, whereby it is held in position when in use, and

folded under the bottom of the lantern when not in use, in the manner and for the purpose described. 5th. In an attachment for lanterns, a glass surrounded by a suitable rim or frame, in combination with a double hinge connecting its lower portion to the lantern, and by means of which it is folded up into the same, and a hasp or its equivalent, by means of which it is held in elevated position at the side of the lantern, substantially as described.

No. 34,524. Steam Boiler.

(*Chaudière à vapeur.*)

Frances O. Emery (administratrix of the estate of Avard S. Emery, deceased), New York, N.Y., U. S., 13th June, 1890; 5 years.

Claim.—1st. The combination, in a heating boiler, of the cases 1 and 2 connected at their lower ends, the water chambers A within the inner casing, the pipes B for connecting one water chamber with another, the pipes B' for connecting the upper water chamber with the inner case of the boiler, and the pipe K connected at the lower side of the bottom water chamber and passing off horizontally through the opening in the casing, and connecting outside the boiler with the vertical pipe that is united at its lower end to the boiler, substantially as set forth. 2nd. The combination, with a boiler, having the cases 1 and 2 with the water space or leg between them, of a vertical range of horizontal water chambers, each water chamber having vertical flue openings passing through the same, and the pipes B secured into the respective water chambers and connecting them together, and the horizontal pipe R connecting the bottom of the lower water chamber with the shell of the boiler, substantially as set forth. 3rd. The combination, with the boiler shells 1 and 2, of a vertical range of water chambers, each of which has passing through the same vertical flue pipes, and the pipes B connecting one water chamber with the next, the pipes B' connecting the upper water chamber with the inner shell of the boiler, and the pipe O and branches S' within the flue of the boiler and opening into the steam space of the same, substantially as set forth.

No. 34,525. Tongue Support.

(*Support de timon.*)

William S. Speer, Wyaconda, Mo., U. S., 13th June, 1890; 5 years.

Claim.—The combination, with the tongue, of a vertical standard having a cylindrical upper end mounted for free rotation in said tongue, said standard terminating at its lower end in a locking plate having a central perforation and an annular series of perforations concentric with the central perforation, the arm having a cast-iron wheel at its lower end, a central and two diametrically opposite side openings at its upper end, a bearing pin passed through the central openings of the arm and locking plate, and opposite locking bolts passed through the diametrically opposite openings and similar registering perforations in the concentric annular series of openings formed in the locking plate, substantially as specified.

No. 34,526. Draft Hook.

(*Crochet de halage.*)

George Harvey, San Francisco, Cal., U. S., 13th June, 1890; 5 years.

Claim.—1st. The combination, with the shank of a draft-hook, provided with a shoulder, of a non-rotatable sliding disk mounted on the hook and adapted to be brought against the shoulder, substantially as specified. 2nd. The combination, with the shank of a draft hook, terminating in a shoulder and having an intermediate lug, of an open non-rotatable sliding ring mounted on the lug and adapted to be brought against the shoulder, substantially as specified. 3rd. The combination, with the shank of a draft hook terminating in a lug, and a guide, of a rope receiving disk mounted to slide on the shank and adapted to receive a cable passed through the guide and around the disk and terminating intermediate the guide and disk, substantially as specified. 4th. The combination, with the shank of a draft hook, terminating in a shoulder and having an intermediate lug and longitudinally-disposed head, of a non-rotatable sliding disk perforated to receive the lug and mounted to move between the shank and head and provided with opposite shank-embracing arms, substantially as specified.

No. 34,527. Apparatus for Extracting Fatty and other Matters from Substances by means of Volatile Solvents. (*Appareil pour extraire des corps gras et autres des substances au moyen de dissolvants volatiles.*)

Henry A. A. Dombraun and Oliver Trumper, Leeds, Eng., 13th June, 1890; 5 years.

Claim.—For extracting fatty and other matters from substances by means of volatile solvents, apparatus, consisting of a number of inclined cells provided with rotating worms and communications, such that the material is caused to pass up and down in a zig-zag course through the successive cells, while the liquid solvent flows through them in the opposite direction, in combination with a vaporising cell, a still and suitable condensers, substantially as described.

No. 34,528. Machine for Cutting Ice.

(*Machine à trancher la glace.*)

Daniel Williamson, Sunbury, Penn., U. S., 13th June, 1890; 5 years.

Claim.—In an ice-cutting machine, a system of power-gears, in combination with a cutter operated thereby, and consisting of a central hub and a series of radiating spokes or arms, the outer ends of which are bent rearwardly, the outer angles of the arms at their bends being beveled to form cutters, substantially as specified.

No. 34,529. Process of Manufacturing Colored Paper. (*Procédé de fabrication du papier de couleur.*)

James H. Carpenter, Chicago, Ill., U.S., 13th June, 1890; 5 years.

Claim.—1st. The process of manufacturing colored paper, which consists in applying coloring matter to the stuff or pulp while it is on the fourdrinier wire of the fourdrinier machine, or on the cylinder of the cylinder machine, so that the coloring matter is unevenly and irregularly mixed with the stuff or pulp, allowing it to diffuse itself incompletely into the body thereof during the formation of the stuff or pulp into paper, and prior to its arrival at the suction box of the paper making apparatus, and subsequently pressing and drying the colored paper in the usual way, substantially as described. 2nd. The manufacturing of multi-colored paper from pulp, by irregularly and unevenly mixing coloring matter with the stuff or pulp when it is being separated from the excess of water, allowing the color so applied in the stuff or pulp to diffuse itself incompletely throughout the body thereof during its formation into paper, and before its arrival at the suction box of the paper making apparatus, and subsequently pressing and drying the paper in the usual way, substantially as described. 3rd. As a new article of manufacture, paper, having a mechanically uneven mixture of coloring matter in the fibres thereof, forming irregularly distributed centers of diffusion from which the color is incompletely diffused, so as to produce clouded and shaded color effects upon and within the body of the paper, substantially as described. 4th. As a new article of manufacture, multi-colored paper wherein the coloring extends from irregularly distributed centres of diffusion unevenly into the body of the paper in unsystematically formed longitudinally laterally or diagonally extending masses, varying in depth and intensity, substantially as described.

No. 34,530. Lamp Bracket for Pianos.

(*Console de piano pour les lampes.*)

James Dooley, Hamilton, Ont., 13th June, 1890; 5 years.

Claim.—1st. In a lamp bracket for pianos, the combination of the frame A, provided with lugs I, and pivot rod J, the pivoted bracket B, with angle bracket m, the spring S, the lugs D and F, the bent rods c, the screws E and the adjustable bent screws H, substantially as and for the purpose hereinbefore set forth. 2nd. In a lamp bracket for pianos, the frame A, having a pivoted bracket B, suspended to position by the cords or chains n, and the spring S, pivoted at K, in combination with the lugs D and F, the bent rods c, screws E and the bent screws H, substantially as and for the purpose hereinbefore set forth.

No. 34,531. Snap Hook. (*Crochet à ressort.*)

The Bridgeport Chain Co. (assignee of Richard Breul), Bridgeport, Conn., U.S., 13th June, 1890; 5 years.

Claim.—A snap-hook, consisting of a hook proper, having a squared shank, a T-shaped spring, the base of which is clasped about the squared end of the shank, a swivel head having a pair of ears, and a round opening through which the shank is passed, a washer in the base of the swivel head, having a squared opening to fit the shank, so as to turn with it, said shank being headed down upon the washer, and a rivet through the ears of the swivel head, by which the snap hook is attached to a chain.

No. 34,532. Automatic Time and Dating Stamp. (*Timbre automatique de temps et de date.*)

Charles Stahlberg, New York, N.Y., U.S., 13th June, 1890; 5 years.

Claim.—1st. In a time stamp, the combination with the movable type moving mechanism, and a motor connected therewith for moving the type into printing position, of a stop for arresting the movement of the type, and a clock train controlling the stop to release the same at predetermined intervals, substantially as described. 2nd. In a time stamp, the combination, with the movable type and a motor spring geared thereto, of a stop for arresting the movement of the type and an independent clock train controlling the stop to release the same at predetermined moments, said clock train being driven by a motor, separate from the first-named motor, with the movable type as described. 3rd. In a time stamp, the combination, with the movable type, a motor connected therewith for moving the same into printing position, and a stop for arresting the movement of the type, of a clock train controlling said stop to release the same, and gearing connecting said clock train motor and the motor for driving the printing mechanism, whereby the clock motor is wound by the movement of the printer motor, substantially as described. 4th. In a time stamp, the combination, with the type wheel, an actuating spring and a train of gears connecting said wheel and spring, and a stop interposed in said train, of a clock train independent of the printing mechanism and controlling said stop, an actuating spring for said clock train, and a gear wheel connected to one end of said clock spring and gearing with the type wheel train, substantially as described. 5th. In a time stamp, the combination, with the type moving mechanism and a locking pawl therefor, of an actuating mechanism during its forward stroke, whereby the locking pawl is released and the type moved into position and locked while the pawl is moving in one direction, substantially as and for the purpose specified. 6th. In a time stamp, the combination, with the time printing mechanism, and having the projection q therein, of the pawl P and projection p, substantially as and for the purpose specified. 7th. In

a time stamp, the combination, with the type wheel, the toothed wheel connected therewith, of the actuating pawl P having the projection p thereon, with the inclined lower face and locking pawl L, having the projection q with the inclined upper face, whereby the actuating pawl is lifted during the return movement, substantially as described. 8th. In a time stamp, the combination, with the month printing mechanism, the date printing mechanism, and a wheel having a single line of regularly spaced teeth controlling the same, of a pawl engaging said toothed wheel, a sector engaging the pawl and holding it out of the path of the teeth on said wheel, and a lever operated by the month printing mechanism, to throw said sector into operative position, substantially as described. 9th. In a time stamp, the combination, with the month printing wheel and toothed wheel connected thereto, of a pawl engaging said toothed wheel, a sector mounted on said wheel and engaging the pawl to hold it out of the path of the teeth, and a lever operated by the month printing wheel to throw said sector into operative position, substantially as described. 10th. In a time stamp, the combination, with the printing mechanism and a locking pawl L', of a movable piece D having pins d and F, levers C' and C'', and a cam E, substantially as and for the purpose set forth. 11th. In a time stamp, the combination, with the date printing mechanism, the toothed wheel connected therewith, and a locking pawl therefor, of the spring-pressed sector mounted on said wheel for keeping the locking pawl out of engagement therewith, and a lever controlled by the month wheel for moving said sector into operative position, substantially as described. 12th. In a time stamp, the combination, with the date and month printing mechanisms, of a locking pawl for the date mechanism, a sector for holding said pawl out of engagement, a lever operated by the month printing mechanism to throw said sector into operative position, and a stop pin on the date mechanism with which the lever co-operates to arrest the movement of the date mechanism, substantially as described. 13th. In the mechanism for moving and locking the day or date type wheel of a time stamp, the combination, with a locking pawl L' of a movable piece D, having pins d and d', levers C' and C'', a cam E and a stop pin v, substantially as and for the purpose set forth. 14th. In a time stamp, the combination, with the year, month and date printing mechanisms, a locking pawl for the date mechanism, and a movable sector for holding said pawl out of engagement, a lever operated by the month printing mechanism to throw said sector into operative position, and a lever operated by the year wheel for controlling the extent of such engagement, substantially as described. 15th. In the mechanism for moving and locking the day or date type wheel, of a time stamp, the combination, with a locking pawl L' of a movable piece D having a pin d', levers C and C', and pins c and c', substantially as and for the purpose set forth. 16th. In the mechanism for moving and locking the day or date type wheel of a time stamp, the combination, with a locking pawl L', of a movable piece D, having a pin d', levers C and C', pins c and c' and a stop pin v, substantially as and for the purpose set forth. 17th. In a time stamp, the combination, with the hour and meridian wheels mounted on a common shaft and connected together to move simultaneously, of the minute wheel journaled between said hour and meridian wheels, substantially as described. 18th. In a time stamp, the combination, with the hour and meridian wheels, of the minute type wheel journaled on the hub of the said hour and meridian type wheels in the space between the two latter, substantially as and for the purpose set forth. 19th. In a clock movement for a time stamp, the combination, with a motor and an auxiliary motor spring S connecting the motor and clock trains, of a stop wheel Z in the motor train, and a notched shaft r controlled by the clock movement, substantially as and for the purpose set forth. 20th. In a time stamp, the combination, with the printing mechanism and motor therefor, a separate clock train, and an auxiliary spring connecting the motor and clock trains, of a stop wheel Z in the motor train, and a notched shaft r controlled by the clock train for releasing the stop wheel at predetermined intervals, substantially as described. 21st. In a time stamp, the combination, with the day wheel having a variable movement to compensate for the unequal number of days in the months, and having the cam h² connected thereto, of the month wheel, the actuating pawl therefor, operated by the cam h², and the lever operated by the month wheel and controlling the extent of the variable movement of the day wheel, substantially as described.

No. 34,533. Vaginal Irrigator. (*Irrigateur vaginal.*)

William A. Kyle and Thomas Costello, Lanark, Ont., 13th June, 1890; 5 years.

Claim.—1st. In a vaginal irrigator, the combination of the cone A having a large central perforation a, and an overflow passage a' approximately parallel to the surface of said cone and terminating in a nipple a¹, a vaginal tube C having a bulbous perforated end bent to the curve of the pelvis passing through the central perforation, a plug B inserted in the central perforation and holding the vaginal tube, substantially as set forth. 2nd. In a vaginal irrigator, the combination of a truncated cone A, a large central circular perforation a, and an overflow passage a', having a nipple a¹ at the base, and communicating with the perforation a, near the apex of the cone, and substantially as set forth. 3rd. In a vaginal irrigator, the combination of the truncated cone A, having a central circular perforation a, and an overflow passage a', with nipple a¹, a soft rubber plug B a, and an overflow passage a', at the base, a vaginal tube C having a inserted in said perforation a, with a bulbous and perforated end, and a draining plain shank and a bent nipple a¹, substantially as set forth. 4th. In a vaginal irrigator, the combination, with the perforated truncated cone A and soft plug B, of a vaginal tube C having a plain shank passing through said plug and having a bulbous perforated end bent to the sacral curve of the pelvis, substantially as set forth.

No. 34,534. Wood Working Clamp. (*Serre-joint.*)

Hiram Cone and Edward B. French, Oneida, N. Y., U. S., 13th June, 1890; 5 years.

Claim.—As an improved article of manufacture, the herein described clamping device, the same comprising, in combination, a movable section having a horizontal body portion notched upon its upper face, provided at its free end with an upright, having a vise screw passed throughout, a section B, carrying at its outer end an upright K, and having notches b formed upon its under face adjacent to its free end, the casing J depending from the inner end of the section B and adapted to loosely receive the strip A², and the substantially wedge-shaped key L, adapted for use in locking the sections in their adjusted positions, substantially as and for the purpose described.

No. 34,535. Advertising and Discount Coupon Book. (*Livret d'annonces et de coupons d'escompte.*)

Charles A. Slocum and Charles I. Williams, Utica, N.Y., U.S., 13th June, 1890; 5 years.

Claim.—1st. Advertising cards, each having one or more advertisements thereon, and provided with detachable discount or percentage coupons, substantially as described. 2nd. In combination with an advertising card or leaf, having one or more advertisements thereon, of a discount or percentage coupon card or leaf, said cards or leaves being united, substantially as described. 3rd. An advertising book, consisting of cards or leaves with advertisements thereon, and detachable discount or percentage coupon cards or leaves, substantially as described.

No. 34,536. Equalizer. (*Régulateur.*)

Edward Leslie, Orangeville, Ont., 13th June, 1890; 5 years.

Claim.—1st. The combination, with a cylinder, of a tube or casting formed with a bore by which communication is established between both ends of the cylinder. 2nd. An equalizer, comprising a tube or casting formed with a bore, and arranged for connection with each end of the cylinder, and a valve arranged to control the passage through the bore, substantially as described. 3rd. An equalizer, comprising a tube or casting formed with a bore and arranged for connection with both ends of a cylinder, and an automatic valve arranged to control the passage through the bore. 4th. An equalizer, comprising a tube or casting, formed with a bore and arranged for connection with both ends of a cylinder, and provided with a valve chamber, an automatic valve arranged within the chamber, and an auxiliary tube leading from the valve chamber to the main tube, substantially as described. 5th. An equalizer, comprising a main tube or casting arranged for connection with both ends of a cylinder, and provided with a valve chamber, an automatic valve arranged within the chamber, a stop arranged in connection with the valve, and an auxiliary tube leading from the valve chamber to the main bore, substantially as described.

No. 34,537. Throttle Valve.

(*Registre de vapeur.*)

Edward Leslie, Orangeville, Ont., 13th June, 1890; 5 years.

Claim.—1st. In a throttle valve, an auxiliary valve adapted to open and close a port in the gate, substantially as shown and described. 2nd. In a throttle valve, the combination, with a gate provided with a port, of an auxiliary valve adapted to open and close said port, substantially as shown and described. 3rd. In a throttle valve, a gate provided with a port and adapted to open and close the usual opening in the valve body, in combination with an auxiliary valve held to slide independently on the said gate and adapted to open and close in said port, substantially as shown and described. 4th. In a throttle valve, the combination, with a gate provided with a port, of an auxiliary valve seated on the said gate and operating over the said port, and a lever for moving the said auxiliary valve substantially as shown and described. 5th. In a throttle valve, the combination, with a gate provided with a port, of an auxiliary valve seated on the said gate and operating over the said port, a lever for moving the said auxiliary valve, and a second lever for moving said gate, substantially as shown and described. 6th. In a throttle valve, the combination, with a valve body provided with an apertured partition, of a gate seated on the said apertured partition and provided with a port, and an auxiliary valve seated on the said gate and adapted to open and close said port, substantially as shown and described. 7th. In a throttle valve, the combination, with a valve body provided with an apertured partition, of a gate seated on the said apertured partition and provided with a port, an auxiliary valve seated on the said gate and adapted to open and close said port, and means, substantially as described, for operating the said auxiliary valve independently of the said gate, as set forth. 8th. In a throttle valve, the combination, with a valve body provided with an apertured partition, of a gate seated on the said apertured partition and provided with a port, an auxiliary valve seated on the said gate and adapted to open and close said port, and a fixed plate held on the said valve body and forming a cover for the said gate, substantially as shown and described. 9th. In a throttle valve, the combination, with a valve body provided with an apertured partition, of a gate seated on the said apertured partition and provided with a port, an auxiliary valve seated on the said gate and adapted to open and close said port, a fixed plate held on the said valve body and forming a cover for the said gate, a hollow valve stem connected with the said gate and extending to the outside, and a rod carrying the said auxiliary valve and passing through the said hollow valve stem, substantially as shown and described. 10th. In a throttle valve, the combination, with a valve body provided with an apertured partition, of a gate seated on the said apertured partition and provided with a port, an auxiliary valve seated on the said gate and adapted to open and close said port, a fixed plate held on the said valve body and forming a cover for the said gate extending to the outside, and a rod carrying the said auxiliary valve and passing through the said hollow valve stem, and levers connected with the said stem and the said rod, substantially as shown and described.

No. 34,538. Slide Valve for Engines.

(*Tiroir de vapeur pour les machines.*)

Edward Leslie, Orangeville, Ont., (assignee of Benjamin Carley, Paterson, N.J., U.S.) 16th June, 1890; 5 years.

Claim.—1st. A slide valve comprising an outer and an inner valve, both arranged to bear upon the valve seat, the inner valve being disconnected from the outer valve, but being held to its seat thereby. 2nd. A slide valve comprising an outer valve and an inner valve with lost motion between them, the two valves being disconnected, but the outer valve being arranged to overlap each end of the exhaust port, substantially as described. 3rd. A slide valve comprising an outer valve and an inner valve, both arranged to bear upon the valve seat portions of the outer valve at all times registering with the exhaust, substantially as described. 4th. The combination, with the slide valve seat of an engine having two induction ports and an interposed eduction port, of valves arranged one within the other, and both working on said seat with a lost motion between them, the outer valve for controlling the entrance of the motive agent to the said induction ports, and the inner one being coved for controlling the exhaust through said induction ports to said eduction port, the inner valve and the cavity in the outer valve, wherein the inner one works, being of less dimension in a direction transverse to the direction of the movement of the valve than the dimension of the eduction port in the same direction, whereby portions of the face of the outer valve are always exposed to the eduction port, substantially as and for the purpose herein set forth.

No. 34,539. Fur Collar. (*Collet de fourrure.*)

André Bôdy, Quebec, Que., 17th June, 1890; 5 years.

Résumé.—La combinaison, avec un col à fourrure, du protecteur B, C, D, E et F, sans ou avec la pente A, tel que décrit et pour les fins indiquées.

No. 34,540. Plug for Soil or other Pipes.

(*Bouchon pour les tuyaux d'égouts ou autres.*)

Jonas A. Rossman, New York, N.Y., U.S., 17th June, 1890; 5 years.

Claim.—1st. A soil pipe plug consisting of a central metallic body provided with exterior screw threads, an inner soft packing arranged between the inner end of the central body and the wall of the pipe, and an outer hard packing arranged upon the soft packing, as herein shown and described. 2nd. A stop or plug for soil pipes, consisting of a central, circular body or center of hard metal provided with an exterior rounded thread, and a packing of suitable soft material, such as oakum and lead, interposed between the walls of the pipe and the threaded central body, as shown and described, whereby the plug may be quickly removed by unscrewing the center of the plug, as set forth. 3rd. The circular metallic body or center for soil pipes, constructed as described, arranged for engagement with a wrench or lever, and provided upon its exterior with a spiral rounded thread and grooves adapted to facilitate the entrance and condensation of the soft packing around the threads and within the grooves, and permit the easy removal of the entire plug from its pipe by unscrewing and removing the center, as set forth.

No. 34,541. Lamp Burner. (*Bec de lampe.*)

Thomas B. Norgate and Alexander H. Milne, Victoria, B.C., 17th June, 1890; 5 years.

Claim.—The combination, with a lamp burner, of the wick holder or tube B, as shown and described for the purpose set forth.

No. 34,542. Machine for Teaching Music.

(*Machine pour enseigner la musique.*)

Joseph J. Bagnley, Toronto, Ont., 17th June, 1890; 5 years.

Claim.—The improved machine consisting of a main front part provided with a central row of alternate bars and spaces, lines D and E forming squares in which are symbols and figures arranged in the manner shown, in combination with a sliding plate provided with symbols shown and arranged to slide between ribs V on the rear side of the main plate, all constructed and arranged as and for the purposes set forth.

No. 34,543. Marginal Index for Bibles and Books. (*Index marginal pour les bibles et les livres.*)

Byron Laing, Acton, Ont., 17th June, 1890; 5 years.

Claim.—1st. In a marginal index for books stamped upon the face of a closed book, the index c placed at the end of one book or section and the beginning of the following, to bring the index of two consecutive books or sections into one, substantially as and for the purpose hereinbefore set forth. 2nd. The lettering of the index c to read parallel with the text, substantially as and for the purpose hereinbefore set forth. 3rd. In a marginal index for books, the pinked attachments D attached to the leaves of the book with the index c, arranged and combined substantially as and for the purposes set forth.

No. 34,544. Lighting Device and Continuous Strip Therefor. (*Appareil d'éclairage à mèche continue.*)

Henry W. Maybaum, Philadelphia, Penn., (assignee of John H. Farrel, Camder, N.J., U.S., 18th June, 1890; 5 years.

Claim.—1st. The combination of a device adapted to hold a continuous consuming or ignitable strip, and means to feed said strip through a tube and fire the same, substantially as and for the pur-

poses described. 2nd. The combination, with a gas burner, of a device adapted to contain an ignitable strip, and means to feed and fire said strip, and to cause the gas to escape at the burner intermittently with the feeding of said strip to be fired, substantially as described. 3rd. The combination, with a burner, of a device adapted to contain an ignitable strip, and means, substantially as described, to feed and fire said strip, and to permit gas to escape at the burner simultaneously with the firing of said strip, substantially as described. 4th. The combination, with a burner, of a lighting device provided with a housing adapted to contain an ignitable strip capable of being consumed, and means to feed and ignite said strip and to cause gas to escape at the burner, and then to extinguish the flame at the exposed end of said strip, substantially as described. 5th. The combination, with a burner provided with a radial arm having a slot therein, and a scraper connected therewith, of a device provided with a tube, and a pin engaging in the slot of said arm and said device adapted to contain an ignitable strip, and means, substantially as described, to feed said strip through said tube and cause the same to contact with said scraper, substantially as and for the purposes described. 6th. The combination, with a burner provided with an arm, and a scraper, connected therewith, of a device adapted to contain an ignitable strip, a vertical tube connected with said device, stationary springs supporting the strip in said tube, a traveller having feed springs, and means to permit of the strip being fed through said vertical tube to contact with said scraper, substantially as and for the purposes described. 7th. The combination with a burner provided with a slotted arm carrying a scraper, of a receptacle provided with a feed tube and springs and ways, and adapted to contain an ignitable strip, a traveller sliding in said ways, feed springs caused to contact with said strip, a pin engaging in said slotted arm, and means to actuate said traveller, substantially as and for the purposes described. 8th. The combination, with a burner provided with an arm and a scraper in pivotal connection therewith, a receptacle provided with a vertical tube adapted to contain an ignitable or consuming strip, stationary springs extending into said tube, and means, substantially as described, to feed said strip through said vertical tube and to cause said scraper to ignite said strip by frictional contact therewith, substantially as and for the purposes described. 9th. An ignitable strip consisting of two or more sheets or layers of paper, cloth, or other material, having a paste or composition composed of an ignitable material or substance distributed over the surface, and uncoated sheets applied to the top and bottom thereof, substantially as and for the purposes described. 10th. An ignitable strip consisting of two or more sheets of paper, cloth, or other material having a paste or composition, as described, spread over the surface thereof, and uncoated top and bottom sheets applied thereto, and the sheets compressed together, substantially as and for the purposes described. 11th. An ignitable strip consisting of two or more sheets of paper, cloth, or other material, having an ignitable material or substances spread over the same, and uncoated top and bottom sheets applied thereto and rendered water-proof, substantially as and for the purposes described. 12th. An ignitable strip consisting of two or more sheets of paper, cloth, or other material, having an ignitable material or substances distributed over and permeating the surfaces thereof, and uncoated top and bottom sheets applied thereto and rendered water-proof and dried, substantially as and for the purposes described.

No. 34,545. Solution for Electric Batteries.

(*Solution pour les piles électriques.*)

Alonzo Ellison, (assignee of Herbert M. Payne,) St. Thomas, Ont., 18th June, 1890; 5 years.

Claim.—A solution composed of water, sulphuric acid, nitric acid, carbonate of iron, sulphate of copper, and permanganate of potash, substantially in the proportions and for the purpose set forth.

No. 34,546. Electric Railway Signal.

(*Signal électrique de chemin de fer.*)

Willie C. Walter, Richmond, Va., U.S., 18th June, 1890; 5 years.

Claim.—1st. An electric railway signal consisting of a railroad track having the rails on one side electrically connected at the ends to form a continuous conductor, a parallel continuous conductor located between the rails and insulated therefrom, two vehicles on the track, each vehicle provided with a circuit connected with said two conductors, a source of electricity in each circuit, an electric alarm in each circuit, each vehicle being provided with a telegraph key in a short circuit from the main circuit, a multiple switch in main circuit, and a short circuit key can be thrown into or out of the switch, so that the same can be short-circuited by the switch from railway signal conductors, for the purpose set forth. 2nd. An electric tinnous conductors insulated from each other, two moving vehicles on the track, each vehicle being provided with a main electric circuit connected with said conductors, a source of electricity in said circuit, an electric alarm in said circuit, adapted to be sounded when the circuit is closed, a multiple switch in said main circuit, alarm, whereby the same can be short-circuited from said two conductors, for the purpose set forth. 3. A telegraph key in a short circuit from the main circuit and connected with said switch, so that the key can be thrown into or out of the main circuit, an electro-magnetic device controlling the whistle-blowing mechanism and located in a short circuit from said main circuit, and a circuit closer in said last mentioned short circuit, substantially as described. 3rd. An electric railway signal consisting of a track, a pair of parallel conductors insulated from each other and extending along the track, a pair of moving vehicles on the track, each vehicle having a circuit connected with said two conductors, a source of electricity in said circuit, an electric alarm in the circuit, a multiple switch having a movable and a stationary contact connected with the main circuit, so that the switch is located in said circuit between one of said con-

ductors and the source and the alarm, a short circuit connected with another stationary point of said switch and with the main circuit between one of said conductors and said source and alarm for the purpose set forth, another short circuit connected with another stationary point of the switch and said main circuit, and a telegraph key in said last mentioned short circuit, substantially as described.

No. 34,547. Phonograph and its Application to Dolls and Similar Toys.

(*Phonographe et son application aux poupées et autres jouets semblables.*)

The Edison Phonograph Toy Manufacturing Company, Boston (assignee of William W. Jacques, Newton), Mass., U. S., 18th June, 1890; 15 years.

Claim.—1st. In a phonograph, the combination of a diaphragm supported in a hinged frame, which is held by a spring in operative relation with the record surface, and an automatic shipping device operated by contact with the record cylinder to stop the record surface and withdraw the stylus therefrom when it has completely traversed the record contained thereon, substantially as described. 2nd. In a phonograph, having a diaphragm pivoted at one side, and a spring to hold its stylus in operative relation to the record-surface, the combination of a latch lever adapted to engage with the phonograph cylinder and stop the record plate and to withdraw the stylus therefrom, an automatically actuated arm to hold said lever in its raised position, and a cam brake to withhold the said record plate from progressive rotation, while the motive spring of the apparatus is being wound up, substantially as described. 3rd. In combination with a phonograph, provided with a spring-actuated cylindrical record plate, having a traversing motion parallel with its axis, a latch lever pivoted at one side to stop the cylinder and raise the stylus therefrom, when the stylus has completely traversed the record thereon, and an automatically operated retaining arm pivoted at the other side of the cylinder to hold the stylus in its raised position while the said actuating spring is being wound up, substantially as described. 4th. In combination with the revolving record plate of a phonograph, a regulator pivoted to a fixed portion thereof eccentrically to the axis of the record plate, and a spring to hold it in frictional contact therewith, substantially as described. 5th. In combination with the record plate of a phonograph, a motive spring consisting of two helices, one of which is attached to the journal of the record plate and the other to a loose sleeve thereon, and an arm projecting from said sleeve adapted to act in opposition to the winding of the actuating spring by its bearing upon a fixed portion of the apparatus, substantially as described. 6th. In a phonograph, an inflexible enduring record plate, substantially such as described, having lines of undulations corresponding to a series of sound waves, impressed or cut thereon in contradistinction to a flexible perishable plate or foil indented or bent in lines of such undulations, or a plate of soft or waxy material in which they have been produced. 7th. The combination of a phonograph with a doll or similar image, or having a chambered body within which the said phonograph is contained and supported, and a hollow head to serve as a resonating chamber to reinforce the sounds reproduced by the diaphragm. 8th. The combination, within the body of a doll, of a phonograph supported thereby, and a globular resonating chamber divided into two portions by a perforated conical partition, substantially as described.

No. 34,548. Furnace or Heater.

(*Calorifère.*)

Robert O. Dobbin, Waterloo, Ont., 19th June, 1890; 5 years.

Claim.—1st. The form and position of the ends of the furnace or heater, which are made to fit closely upon the fire box or furnace body to occupy little space and descend below the top of the fire box. 2nd. The damper *j*, placed as indicated and for the purpose set forth. 3rd. The connection of the radiating pipes *e*, *e*, etc., with the discharge pipes *f*, *f*, by means of the enclosed space *d*, as above indicated and for the purpose set forth. 4th. The combination of the pipes *f*, *f*, with *h*, as shown in the drawing. 5th. The removable end plate *k*, in combination with the rest of the furnace or heater, for the purpose of cleaning out. 6th. The mode of damming up the heat and gases, and holding the same in the radiator until the heat is extracted therefrom, as above indicated. 7th. The pipes or tubes *n*, *n*, provided with removable caps, for the purpose of cleaning out the back part of the furnace or heater.

No. 34,549. Nut Lock. (*Arrête-écrou.*)

Richard Conway and Ephraim Davis, Argenville, Mo., U.S., 19th June, 1890; 5 years.

Claim.—1st. In a locking bolt and locking nut, the combination of the nut provided with the recessed chamber and abutment or wall, the radial locking key 12, formed with a foot 14, having a toe and a heel, and the bolt having a seat 15 on which the foot of the key rests, substantially as described and for the purpose set forth. 2nd. In a locking nut and bolt lock, the combination of the stationary nut provided with the dovetail recessed chamber and circle chamber 13, the dovetail radial locking key 12, having the bevel-toed foot 14 and the projecting heel 18 and the rotary lock-bolt, the said bolt provided with recessed seats in which the bevel-toed foot of the locking-key rests to lock said bolt, substantially as described and for the purpose set forth. 3rd. In a locking bolt and locking nut, the combination of the nut provided with recessed chamber, the radial locking key 12, formed with catch hold 19, and foot 14 having a toe and heel, and the bolt having seats 15 on which the foot of the key rests, substantially as described and for the purpose set forth.

No. 34,550. Nut Wrench. (*Cle à écrou.*)

John B. Meier and Benjamin J. Karrer, Port Huron, Mich., U.S., 19th June, 1890; 5 years.

Claim.—1st. A wrench, comprising the jaw *G*, having shank *g* and teeth *g'* on the rear portion of shank *g*, the part *A* having jaw *D*,

groove J' and apertured head C, the said aperture and groove J' being in line and adapted to receive shank *g* and the part B symmetrical with the grooved part of A, hinged to the head C, and having a corresponding groove J and a toothed portion *h*, substantially as described. 2nd. The hereinbefore described wrench, consisting of the parts A and B, which form the handle, the part A having groove J' in its rear portion, jaw D, and apertured head C at its front end, the part B being symmetrical with the rear groove part *g*, A, and having groove J and toothed portion *h* hinged to the head C, the spring F and catch E, and the jaw G having shank *g*, which is adapted to work in the apertured head C and in the grooves J, J', said shank having teeth *g'*, substantially as described.

No. 34,551. Wood Working Machine.

(*Machine à travailler le bois.*)

John Braithwaite, Canton, N.Y., U.S., 19th June, 1890; 5 years.

Claim.—1st. The combination, with the standards provided with curved slots, of the hinged side bars and the parts carried thereby, the cross shaft passed through the ends of the side bars farthest from their hinge and passed through the slots of the standards, and the set screw on one end of the said shaft outside the standard, substantially as and for the purpose specified. 2nd. The combination, with the side bars, the cutters and planer supported by the side bars, of the feed table having a hinged portion, and a swinging support for the hinged portion, substantially as shown and described. 3rd. The combination, with the side bars, the cutters and planer supported by the side bars, of the feed table having a fixed portion and a portion hinged thereto, provided upon its underside with a transverse cleat, and a swinging support for the hinged portion having a cross bar adapted to engage said cleat, substantially as and for the purpose specified. 4th. The combination, with the hinged side bars, of the frame carried thereby, the arbor journaled in bearings on said frame, the cutters on the arbor, the planer also carried by a shaft on said frame, and means for imparting motion to the cutters and planer, substantially as described. 5th. The combination, with the hinged side bars, the cross shaft carried by the same and provided with pulleys, the inclined arbor carried by the side bars, the cutters thereon, the planer shaft carried by the side bars and carrying the planer and the belts and pulleys, whereby motion is imparted to the cutter shaft and arbor from the pulleys on the said cross shaft, substantially as described. 6th. The combination, with the planer and cutters, of the feed table, and the presser plate arranged over and parallel with the feed table, substantially as described. 7th. The combination with the feed table, the cutters and planer, of the presser plate arranged above and substantially parallel with the feed table, and an adjusting screw bearing on each end of the presser plate, as set forth. 8th. The combination, with the feed table, the cutters and planer, of the frame C, the cross bars thereof, the presser plate arranged above and parallel with the feed table, the spring bars attached at their ends to the upper face of the presser plate, and the screw-threaded rods tapped through the cross bars of the said frame and bearing on the said spring bars, substantially as and for the purpose specified.

No. 34,552. Key Receptacle.

(*Réceptacle de clé.*)

Thos. B. Jeffery, Chicago, Ill., U.S., 19th June, 1890; 5 years.

Claim.—1st. In combination with the two abutting parts adapted to be locked together, a key receptacle in one of said parts, having its entrance at the plane of their abutting edges, and a cover adapted to close said entrance, substantially as set forth. 2nd. In a key receptacle, in combination with the face plate having an opening which serves as the entrance to said receptacle, a lever pivoted to the plate and having a projection adapted to engage the key and to enter said opening when the lever is rocked toward the plate, substantially as set forth. 3rd. In a key receptacle, in combination with a face plate, having an opening which serves as an entrance to the receptacle, a lever pivoted to the face plate and adapted to close the opening in the face plate, and having a projection adapted to engage the key and entering the opening when the lever is rocked toward the plate, substantially as set forth. 4th. In a key receptacle, in combination with the face plate, having an opening which serves as an entrance to the receptacle, a lever pivoted to the face plate and adapted to engage the key to carry it into and out of the receptacle when the lever is rocked, and a spring reacting between the lever and the face plate, and tending to rock the lever toward the plate, substantially as set forth. 5th. In combination with two abutting parts, adapted to be locked together, a key receptacle in one of said parts having its entrance at the plane of their abutting edges, and a key withdrawing device jointed to the abutting part, which contains the receptacle and entering the same and adapted to engage the key, substantially as set forth. 6th. In a key receptacle, in combination with the face plate having an opening which forms the entrance into the receptacle, a key-withdrawing device jointed to the face plate and adapted to protrude through said opening into the receptacle and to engage the key, substantially as set forth. 7th. In a lock, in combination with the two abutting parts, which are secured together by it, the lock case having a key receptacle formed within it, such receptacle having its entrance at the plane of the abutting edges of the locked parts, substantially as set forth. 8th. In combination with the case containing a key receptacle, a spring located in such receptacle, and operating upon the key to retain it therein, substantially as set forth.

No. 34,553. Playing Cards.

(*Cartes à jouer.*)

Thomas Draper and Henry L. Salmon, Victoria, B. C., 19th June, 1890; 5 years.

Claim.—1st. The combination in playing cards, of a large pip in the centre of the card, with a cypher, figure, letter or word denoting the value placed thereon, or in, substantially as shown and for the

purpose specified. 2nd. The combination, in playing cards, of a large pip in the centre of the card, with a cypher, figure, letter or word denoting the value thereof, placed thereon, or in, with or without advertisements printed round, across or thereon, together with another pip of smaller size, with figure or letter thereon, placed in left-hand corners, and with or without a still smaller pip, with value of same printed above, or a copy of an ordinary card in miniature in either corner, substantially as shown and specified. 3rd. As an advertising medium, the combination, in a playing card, of a large pip in the centre of the card with various advertisements printed round, in, on or across same, with or without various sketches of places, buildings or things, also with or without valued pips of smaller size in opposite left-hand corners, and with or without still smaller pips, with figure or letter over same, substantially as and for the purpose specified and shown. 4th. As an advertising medium, the combination of playing cards, of a large pip in the centre of the court cards, and with or without various advertisements in, on, round or across same, and with or without portrait faces of celebrities, etc., also with small pip in left-hand corners, with initial letter or figure therein, and with or without small pip with initial value in letter or figure over same, substantially as shown and specified. 5th. The combination, in a playing card, of a white pip outlined with black, and a black figure therein for use in right-hand corners, substantially as shown and specified.

No. 34,554. Railway Rail Joint.

(*Joint de rail de chemin de fer.*)

James M. Moody and Sidney B. Moody, Harwich, Mass., U. S., 19th June, 1890; 5 years.

Claim.—1st. A railway rail joint, consisting of the chair provided with plain faces and inwardly inclined flanges, as described and shown, and wedges having plain faces constructed and arranged to bear against said flanges, the upper surface of the base and the under surface of tread of the rail, but not against the web *i* of the same, substantially as and for the purpose set forth. 2nd. The combination, with the rail, of the chair, provided with the plain faces and inwardly inclined flanges, as described and shown, the base of said chair being provided with holes, wedges, having plain faces, provided with notches and constructed and arranged to bear against said flanges, the upper surface of the base and the under surface of the tread of the rail, but not against the web *i* of the same, and spikes driven vertically through the notches in the wedges, notches in the base of the rail, and the holes in the base of the chair, substantially as and for the purpose set forth.

No. 34,555. Mode of Making Sectional Chills.

(*Mode de fabrication des coquilles de fonderie en sections.*)

Nathaniel S. Bouton, Chicago, Ill., U.S., 19th June, 1890; 5 years.

Claim.—The mode of making a sectional chill, which consists in casting a rough chill, having divisions which do not extend entirely through to the chilling face, and then finishing by removing the metal from the chilling face till the divisions are reached, substantially as described.

No. 34,556. Apparatus for Purifying and Refining Oil.

(*Appareil pour purifier et raffiner l'huile.*)

Christian Dorn and Emil Noppel, Philadelphia, Penn., U. S., 19th June, 1890; 5 years.

Claim.—1st. An apparatus for purifying and refining oil, consisting of a tank, a receiving reservoir in the upper part of said tank, and provided with a discharge pipe extending to near the bottom of the tank, a horizontal plate surrounding said discharge pipe in said tank, depending cylinders secured to said plate forming chambers, communicating at alternate ends, a heating pipe within said chambers, said parts being combined, substantially as described. 2nd. A tank, with a reservoir therein, the latter having a discharge pipe within the tank extending to near the bottom thereof, a horizontal plate with nozzles on its upper face and near its outer rim, depending concentric cylinders secured to said plate, forming communicating chambers, and heating pipes within the inner one of said chambers, said parts being combined substantially as described. 3rd. An apparatus for refining and purifying oil, consisting of a tank having cocks at different heights thereon, a reservoir in the upper part of said tank, having a discharge pipe within the tank and extending to near the bottom thereof, a horizontal plate, having nozzles near its rim, depending cylinders secured to said plate and forming chambers, said chambers having communication at alternate ends, a heating coil pipe in the lower part of the tank and in the inner chamber, and a deflector on said horizontal plate, said parts being combined substantially as described. 4th. In an apparatus for purifying and refining oil, a tank with suitable outlets, a reservoir with discharge pipe in said tank, a horizontal plate with depending cylinders forming communicating chambers, the outer end of said chambers having an upward outlet through openings in the horizontal plate and a heating pipe in said inner chamber, said parts being combined substantially as described.

No. 34,557. Manufacture of Boots and Shoes by means of a Rivet Seam called "The Metallic Rivet Seam."

(*Confection des chaussures au moyen de couture dite "Le rivet à couture métallique."*)

Octave Migner, Quebec, Que., 19th June, 1890; 5 years.

Résumé.—Le moyen de coudre ou lier ensemble au moyen de fil métallique le rivet à l'empeigne d'une chaussure avec les fils D, tel que ci-dessus décrit et pour les fins indiquées.

No. 34,558. Apparatus for Distributing Lighting Fluids to Lamps. (*Appareil pour distribuer les fluides d'éclairage aux lampes.*)

Peter Nolan and John Anderson, Rochester, N. Y., U. S., 21st June, 1890; 5 years.

Claim.—1st. In a system for distributing lighting oils, such as described, the combination of the tank A, supply-pipe B and lamps K posed of a reservoir C, float α , vertical valve stem 6, two conical valves 4 and 5, valve box 3, having seats for said valves, said valves being adjustably fixed upon said valve stem, and said valve box being inserted in the end of the inlet pipe to the reservoir, whereby one of said valves closes if said float rises above a certain plane, and the other of said valves closes if said float drops below a certain plane, and for the purpose described. 2nd. The combination of a main oil tank, supplying pipes and lamps, with a reservoir containing a float provided with a vertical screw-threaded valve stem, and two opposed conical valves adjustably screwed thereon, and a valve box, having seats for said valves and inserted in the supply pipe to said reservoir, for the purpose described. 3rd. A feed regulator for the lamps, consisting of an oil reservoir having inlet and outlet pipes containing a float α , provided with a valve stem 6, having adjustably fixed thereon two opposed conical valves 4 and 5, a cylindrical valve box 3, having two valve seats for said valves in the ends thereof, said valve box being fastened to the end of said inlet pipe by a suitable coupling, for the purpose described.

No. 34,559. Type Writer and Type Cleaning Device therefor. (*Graphotype et appareil pour en nettoyer les caractères.*)

Fred Van Fleet and George E. Graff, Williamsport, Penn., U.S., 21st June, 1890; 5 years.

Claim.—1st. In a type-writing machine, the combination of a type cleaning brush movable at one motion over the surface of the type and away therefrom, with the type-writing and paper shifting mechanism, and connections between said brush and a moving part of said machine, in order that the brush may be operated as above stated by the normal working of the machine, for the purpose set forth. 2nd. A type-writing machine, provided with an automatic oscillating brush or type cleaner, for the purpose set forth. 3rd. In a type-writing machine, the combination of the movable rack-bar, for operating the latter, a type cleaning brush, and connections between said rack bar and said brush, substantially as set forth. 4th. In a type-writing machine, a rack bar provided with two racks and movable upward and downward, in combination with an escapement engaging one of said racks when said rack-bar is in one position, and a gear wheel engaging the other rack, when said rack-bar is in the other position, a type-cleaning brush, and connections between said gear wheel and said brush for automatically operating the latter, substantially as set forth. 5th. In combination with a type basket a type-cleaning brush corresponding in shape and size to the opening of said basket, and the series of type arranged therein, and a lever connected to said brush for the purpose of moving the latter across all the type at once, substantially as set forth. 6th. In combination with a type-cleaning brush and its lever, a yoke to which from the escapement shaft or escapement shaft centres of a type-writing machine, substantially as set forth. 7th. In combination points above said lever, and a clamp or set screw adjustably securing said lever to said yoke, substantially as set forth. 8th. In combination with a type-cleaning brush and its lever, a crank shaft, pitman wheel and retracting spring for vibrating the said lever, and a rack and ratchet of the type-writing shaft, the rack being movable with the carriage of the type-writing machine, substantially as set forth. 9th. In combination with an oscillating type-cleaning brush, and the carriage shaft for said wheel, a rack and wheel, a pitman, a crank having either slightly more or slightly less than half the number of teeth in said wheel to avoid dead centering, substantially as set forth. 10th. In a type-writing machine, the combination of an automatic oscillating type cleaning brush, with the types, the operating mechanism and connections, whereby the brush will be caused to clean said type by the normal operation of the machine, substantially as set forth. 11th. A type-writing machine, provided with an said brush being also adapted to be operated by hand, substantially as set forth. 12th. In a type-writing machine, the combination of a rack and intervening mechanism within the type basket, with the carriage, for the purpose set forth.

No. 34,560. Process of Manufacturing Seamless Gold-Plated Wire. (*Procédé de fabrication du fil de fer sans soudure plaqué en or.*)

Charles R. Smith, Providence, R.I., U.S., 21st June, 1890; 5 years.

Claim.—1st. The improved process of plating, herein described, consisting of the following steps, covering with a fluxing material the metal, which is to be plated, covering with a fluxing material plating metal, placing the latter metal upon the former and passing them so in contact through the flame of one or more blow-pipes, and there fusing and flowing the plating metal upon the metal to be plated in position in a solid mass, substantially as specified. 2nd. The improved process of manufacturing seamless gold-plated wire, herein described, consisting of the following steps, covering a wire of base metal with a fluxing material, covering the split tube

upon the wire, feeding said wire and tube with a rotary and longitudinal movement through the flame of blow-pipes, and fusing there the gold tube upon the wire in a solid mass, and then smoothing and finishing the plated wire by any of the usual methods for that purpose, substantially as specified. 3rd. The improved process of manufacturing seamless gold-plated wire, herein described, consisting of the following steps, covering a wire of base metal with a fluxing material, covering a strip of gold plate with a fluxing material, feeding said strip to said wire in an angular direction, feeding said wire with a rotary and longitudinal movement through the flame of blow-pipes, and fusing there the gold strip upon the wire in a solid mass, and then smoothing and finishing the plated wire in any suitable known manner, substantially as specified.

No. 34,561. Dumping Bucket.

(*Baïlle à bascule.*)

William E. Ludlow and Edgar S. Ludlow, Toledo, Ohio, U. S., 21st June, 1890; 5 years.

Claim.—1st. In a dumping bucket in which the bottom is separate from the body portion, the combination of a hanger, pulleys upon said hanger, and chains or ropes passed over the pulleys and attached to the bottom and to the body portion, whereby the body portion and bottom may move in opposite directions away from and toward each other, and whereby, also, the former may serve as a counter-weight to close the bucket. 2nd. In a dumping bucket, a hanger having a tubular extension within the body of the bucket, and catches pivoted within the hanger, in combination with a bottom having a vertical rod movable within the tubular extension, and formed with a head to engage the catches, as and for the purpose set forth. 3rd. In a dumping bucket, a body portion, a bail secured transversely thereof and having a central opening, and a hanger arranged within the opening, in combination with a bottom portion flexibly connected with the body portion, as and for the purpose set forth. 4th. In a dumping bucket, a hanger formed with a tubular portion extending within the bucket, a bottom portion formed with a central rod extending within the tubular portion, a coiled spring within the tubular extension, and a collar upon the rod to contact with the spring when the bottom is dropped, as and for the purpose set forth. 5th. In a dumping bucket, a hanger, catches pivoted within the hanger, each catch having an inwardly projecting portion and an upper inclined portion, a locking dog adapted to rest within the inclined portions of the catches, and mechanism for operating the dog, in combination with a vertical rod so shaped at its upper end as to close the catches on coming into contact with them, and having projections with which the catches engage, as and for the purpose set forth. 6th. In a dumping bucket, a vertically-movable bottom formed with a concave conoidal upper surface, as and for the purpose set forth. 7th. In a dumping bucket, a bottom formed of a metal plate, having a concave conoidal upper surface and an insertible wooden base portion, as and for the purpose set forth.

No. 34,562. Money Drawer and Cash Account Recorder. (*Caisse-régistre de monnaie.*)

Joseph S. Smithson, Chicago, Ill., U.S., (assignee of Allen G. Ingalls, Ottawa, Ont.) 23rd June, 1890; 5 years.

Claim.—1st. In a money drawer and cash account recorder, the combination, substantially as hereinbefore shown and described, of the drawer B, having the locking device D¹, D², with the rod D, the pin T, and the roll b, as set forth. 2nd. In a money drawer and cash account recorder the combination with the rod D, having the spring F¹, of the pawl I, as set forth. 3rd. The combination, in a money drawer and cash account recorder, with the rod D, the pawl I, and the ratchet J, of the roller J¹, substantially as set forth. 4th. In a money drawer and cash account recorder, the combination, with the roller J¹, having the ratchet J, the pawl F, and the pawl I, of the record paper H, substantially as set forth. 5th. The combination, substantially as hereinbefore shown and described, with the pawl F, of the lever E, as set forth. 6th. In a money drawer and cash account recorder, the combination, substantially as hereinbefore shown and described, with the drawer B, having the enclosing case A, of the roller J, the pawl F, the bell hammer O, and the gong or bell P, the rod D, and an operating mechanism, as set forth. 7th. In a money drawer and cash account recorder, the combination, with the ratchet J, of the plate K, as set forth. 8th. The combination, in a money drawer and cash account recorder, with the record paper H, of the table Q, and clamp Y, as set forth. 9th. In a money drawer and cash account recorder, the combination, with the ratchet J, of the roller J¹, of the pawl I, and the rod S, as set forth. 10th. The combination, in a money drawer and cash account recorder, with the box A, and drawer B, and an operating mechanism such as described of the glazed aperture R, having a cash entry aperture substantially as set forth. 11th. The combination, in a money drawer and cash account recorder, with the box A, and drawer B, of the pin T, as set forth.

No. 34,563. Solution for Treating Gold and Silver Ores. (*Solution pour traiter les minerais d'or et d'argent.*)

William L. Candler, trustee, Boston, (assignee of Jacob C. Wiswell, West Medford,) Mass., U.S., 23rd June, 1890; 5 years.

Claim.—1st. A solution composed of nitro-hydrochloric acid, water, mercurous and sodium chlorides, and free chlorine, for use in separating gold and silver from their ores, substantially as and for the purpose set forth. 2nd. A solution for treating gold and silver ores, consisting of nitro-hydrochloric acid, water, mercurous and sodium chlorides, sulphuric acid, and free chlorine, substantially as set forth.

No. 34,564. Valve. (*Soupepe.*)

Adolph Weber and William L. Mahon, Detroit, Mich., U.S., 23rd June, 1890; 5 years.

Claim.—1st. The combination of the valve case A, containing the valve B, with the valve B, seated in the valve case, the curved and rectangular valve stem C, turning the valve B, the cap D, retaining the valve in the valve case and perforated to allow the passage of the valve stem, the annular flange G, projecting from the upper face of the cap D as high as the valve stem, the recess G¹, cut in the annular flange to permit the insertion of the key H, the shoulders g g¹ on the flange G, limiting the movement of the key H, the circular key H, having the curved and rectangular aperture to engage with the curved and rectangular valve stem, and the stud O on the key, limiting its movement by contact with the shoulders g g¹, all substantially as described. 2nd. The combination of the valve case A, having the shoulders a², with the valve B, seated in the valve case, the cap D, retaining the valve in its seat and carrying the packing I, the recess H, cut out on the under side of the cap to receive the packing, the shoulder h, formed by the recess H, holding the packing on the cap, and the packing I, held on the cap by the shoulder h, all substantially as set forth. 3rd. The combination of the valve case having the shoulder a² with the valve B, seated in the valve case, the annular recess b¹ and the annular flange b² for the reception of the elastic packing I, the cap D, retaining the valve in its seat and carrying the packing I, the recess H cut out of the under side of the cap to receive the packing, the shoulder h formed by the recess H, holding the packing on the cap, and the elastic packing I, held on the cap by the shoulder h, all substantially as set forth. 4th. The combination of the valve case A, containing the valve B, with the valve B, the recess L, bored out of the valve case, to receive the soft metal valve seat, the annular flange around the port a, to prevent the outflow of the fluid soft metal, the orifice M, through which the fluid soft metal is poured to form the valve seat, and the soft metal valve seat, all substantially as set forth.

No. 34,565. Rotary Chair. (*Fauteuil tournant.*)

Charles H. Purdy and Henry W. Johnson, Michigan, Ind., U.S., 23rd June, 1890; 5 years.

Claim.—1st. In a revolving chair or stool, the interiorly screw-threaded nut or block G, to which the legs are attached, the bearing D, provided with an exteriorly screw-threaded hollow shank having a smooth interior, and a spindle C, having a smooth exterior, fitting closely in the hollow shank and rigidly connected to the seat for raising and lowering the seat without turning it, substantially as and for the purposes specified. 2nd. In a revolving chair or stool, the seat A, block B, attached to the seat and provided with the spindle C, and an anti-friction ball-bearing, the bearing D, provided with an anti-friction ball-bearing and an exteriorly-threaded hollow shank E, anti-friction balls K, and interiorly screw-threaded nut or block G, for raising or lowering the seat without rotating it or rotating the seat without raising or lowering it, all constructed substantially as and for the purposes specified.

No. 34,566. Device for Printing Signs.

(*Appareil pour imprimer les enseignes.*)

Edward A. Bishop, Herman Proehl and William G. Gittings, Racine, Wis., U.S., 23rd June, 1890; 5 years.

Claim.—1st. Two or more segmental frame sections provided with printing characters, and having their opposing inner ends cut on an angle acute to a vertical, in combination with the short and long links J, K, pivoted at their ends to said inner ends of each two of the frame sections, substantially as set forth. 2nd. Two or more segmental frame sections provided with printing characters, and having their opposing inner ends cut on an angle acute to a vertical, in combination with a cross brace at the inner end of each frame section, the button C pivoted to the cross brace of one section to be brought over upon the opposing cross brace of the adjacent section, and the short and long links J, K, pivoted at their ends to said opposing inner ends of the frame sections, substantially as set forth. 3rd. Two or more segmental frame sections having their opposing ends cut on an angle acute to a vertical, in combination with the pivotal links J, K, uniting each two of the sections, the stops g for the links K, and suitable letters or characters arranged on said sections, substantially as set forth.

No. 34,567. Crimped Shoe Pack.

(*Hausse de soulier cambrée.*)

Daniel Matchett, and George McKnight, Magnetawan, Ont., 23rd June, 1890; 5 years.

Claim.—1st. A shoe pack having its heel and quarters stamped out of a single piece of leather, substantially as specified. 2nd. A shoe pack having elastic gussets inserted in its leg, substantially as specified.

No. 34,568. Pocket or Note Book. (*Calepin.*)

Emil Weissbrod, Greenfield, Mass., U.S., 23rd June, 1890; 5 years.

Claim.—1st. A pocket or note book provided with one or more apartments made up of outside and dividing walls, said walls being composed of one or more thicknesses of combustible material, and a sheet of asbestos or other non-combustible material, as and for the purposes specified. 2nd. The combination, with a pocket or note book provided with one or more apartments, made up of outside and inside double walls, of the asbestos sheets inclosed within said walls as and for the purposes set forth.

No. 34,569. Weighing and Price Platform Scale. (*Balance de pesage et de prix.*)

Joseph T. Bright, Lexington, Ky., U.S., 23rd June, 1890; 5 years.

Claim.—1st. The combination of the sliding graduated beam bearing a sliding weight to indicate a certain value of the article to be purchased, a screw and balance weights therein which are entirely independent of the aforesaid weight on the beam, which are vertically supported on the aforesaid beam and screw work, a swinging hanger and its base, and a system of levers contained in the latter and supporting said platform, and means for connecting such levers and the aforesaid screw, whereby the tilting of the beam and screw effects a corresponding change in the position of the platform and its supporting levers, as and for the purpose specified. 2nd. The combination of the beam H, weight E, screw A, swinging hanger 3, balance weights B, C, gear G, index and dial, the bar N pendent from weight C, the platform Y, and a system of levers for supporting it and connected with said bar, as shown and described to operate as specified. 3rd. The combination, with the slotted base and its platform, of the seats of pivoted aligned levers V, V¹, the vertically movable cross bar S, hanging arms R, the sliding and tilting lever O, a bar N connected with one end of the latter, the graduated beam H, parallel screw A, swinging hanger 3, the weights B, C, gear G, index and dial, all arranged and operating as specified. 4th. The swinging hanger 3 bearing a dial, the gear G journaled in the hanger, the index K fixed on the journal of said gear and moving over the dial, a rotating screw which meshes with the gear and travels endwise in boxes arranged in the hanger, a vertically movable platform, and a system of levers for supporting and elevating it, and means for connecting said screw and levers, substantially as shown and described.

No. 34,570. Indicator for Stations of Railways, Steamboats, etc. (*Indicateur des stations de chemins de fer, bateaux à vapeur, etc.*)

Irénée N. Soly and Sabin Soly, Montréal, Qué., 23rd June, 1890; 5 years.

Résumé.—1o. Dans un indicateur, la combinaison suivante, en tirant sur la poignée U² de la corde U, Fig. 1, la roue moteur T entraîne la tige L, la fourche M étant fixée sur la tige L pousse la griffe G, la goupille H étant supportée par la griffe G avance vers un des trous F, et en s'introduisant, pousse le taquet de sûreté N, le petit rouleau I étant rendu à J suivant la position du bout de la pièce de renversement J, la goupille H entraîne les roues F, E, E, qui supportent les lisères de cartons S, l'espace d'une division qui correspond au changement de nom, d'une station, et la goupille de sûreté N entre dans le trou F¹ suivant la roue moteur T, étant rendu au bout de sa course par la force de son ressort repousse la griffe G en position pour une autre fonction dans le même fonctionnement que du battant O s'accroche dans la corde L, s'échappe et frappe le timbre R par la force de son ressort au même instant que la tige L est rendue au bout de sa course, tel que ci-dessus décrit. 2o. Dans un indicateur, les combinaisons des lisères de cartons S ou de fer-blanc, avec des galons, cordes ou autre matériel convenable et convenablement arrangés, tel que décrit. 3o. Dans un indicateur, les combinaisons de la boîte V, de la charpente A, des lisères de cartons S, avec les roues E, E, F du mécanisme, tel que décrit. 4o. Dans le fonctionnement d'un indicateur, les combinaisons de la corde principale ou fil de métal g, les boules d'arrêt g¹, des anneaux a¹, la corde z et support avec la roue T, convenablement arrangés tel que décrit ci-dessus et pour les fins indiquées.

No. 34,571. Paper Pulp Digester.

(*Pourrissoir de pâte à papier.*)

William W. Keys, Bridgeport, Conn., U.S., 23rd June, 1890; 5 years.

Claim.—1st. The paper pulp digester, substantially as hereinbefore described, consisting of several flanged sections bolted together, each section being a solid homogeneous casting composed of bronze, which is substantially non-corrosive, under contact with hot acid solutions, and has sufficient strength to withstand the heavy steam pressures requisite in the manufacture of wood pulp. 2nd. A paper pulp digester, having solid walls composed of cast deoxidized bronze, substantially as and for the purposes specified.

No. 34,572. Combination Tool.

(*Outil à combinaison.*)

August Fromming, Hanover, Kan., U.S., 23rd June, 1890; 5 years.

Claim.—The herein described combination tool, composed of the levers A and B, having the recessed hubs a and b, which hubs are pivoted together and have oblique grooves to form a wire cutting device, the outer ends of the levers being curved to form the jaws D and D¹, and the inner portions of the levers bordering on the hubs being brought close together to form the jaws g and g¹, the lever A having the blade F, which is provided with the saw-set H, and the lever B, having the pole or hammer E, substantially as described, for the purpose specified.

No. 34,573. Manufacture of White Lead by Electricity. (*Fabrication du blanc de plomb par l'électricité.*)

Turner D. Bottome, Hoosick, N.Y., U.S., 25th June, 1890; 5 years.

Claim.—1st. The process of manufacturing white lead, consisting in electrolytically dissolving metallic lead electrodes in an alkaline aqueous solution containing acid, and being supplied continuously with carbon dioxide. 2nd. The process of manufacturing white lead by electrolytically forming an oxygen compound of lead from a lead

electrode in an alkaline solution containing free carbon dioxide, which unites with the oxygen compound of lead to form hydrated carbonate of lead. 3rd. The process of manufacturing white lead, consisting in electrically converting lead into white lead by subjecting an electrolyte of an alkaline nitrate to electrolysis with leaden electrodes, while the both are kept saturated with carbon dioxide, substantially as herein described.

No. 34,574. Oil Filter. (*Filtre à huile.*)

Albert C. Darragh, Allegheny, Penn., U.S., 25th June, 1890; 5 years.

Claim.—1st. In a combined filter and reservoir, the combination of a shell, a receiver containing a funnel with a strainer, and having a short pipe section projecting from its base, a stand-pipe extending from said receiver into a funnel, provided with a strainer at the base of the filter, a guide supporting said funnel, a wash-cock at the bottom of the filter, and a filter disk forming the bottom of the reservoir for oil, and separating said reservoir from the water chamber, all substantially as and for the purposes set forth. 2nd. In a combined filter and reservoir, the combination of a shell, a stand-pipe provided with a strainer and reaching to the base of said filter, a wash-cock at the bottom of said filter, and a filter disk forming the bottom of the reservoir for the oil, and separating said reservoir from the water chamber, all substantially as and for the purposes set forth.

No. 34,575. Metallic Buggy Bed.

(*Caisse métallique de voiture.*)

William L. Dearth and David A. Coulter, Frankfort, Ind., U.S., 25th June, 1890; 5 years.

Claim.—The combination of the metallic body 1, 2, 3, having the inwardly bent top seat flanges 7, and the wooden supporting and brace frame consisting of the side bars, the cross-bars and the uprights bolted to the metallic body, substantially as set forth.

No. 34,576. Pail, Tub and Articles made of Staves. (*Seau, cuvette et objets faits de douves.*)

The Grooved Stave and Corrugated Hoop Company, Portland, Me., (assignee of Henry H. Thornton, Boston, Mass.), U.S., 25th June, 1890; 5 years.

Claim.—1st. A hoop, comprising a band of metal of even curvature, having cross corrugations or crimps, which normally slant in correspondence to the slanting surface of a bilged or slanting vessel, substantially as set forth. 2nd. A bilged or slanting vessel, having circumferential grooves, containing hoops of metal of even curvature, having cross corrugations or crimps which normally slant in correspondence to the slanting surface of said vessel, all substantially as set forth and described. 3rd. A bilged or slanting vessel, having circumferential grooves, containing metal hoops of even curvature, having cross corrugations or crimps normally slanting in correspondence to the slanting surface of said vessel, the lower ends of the staves forming said vessel being rounded, all substantially as described.

No. 34,577. Screw Propeller.

(*Hélice de propulsion.*)

Louis H. Matthaei (assignee of Max Vogelgesang), Hoboken, N.J., U.S., 25th June, 1890; 5 years.

Claim.—1st. A screw propeller, the working faces of which are arranged at an angle to the axis of the propeller, and slightly concaved toward the obtusely-angled front or cutting edges of the blades, which latter are reinforced at their rear sides by an inclined transverse ridge, and a longitudinal ridge extending from the inner end of the transverse ridge toward the hub and point of the blade, so as to form inclined guide-faces, by which the water passing over the ridges is conducted off in a direction nearly parallel to the working faces of the blades, substantially as set forth. 2nd. A screw propeller, having radial blades inclined to the axis of the propeller and obtuse-angled front or cutting edges, and inclined guide faces formed at the rear sides of the blades by an inclined transverse ridge, and a longitudinal ridge that extends from the inner end to the transverse ridge toward the hub and the point of the blades, substantially as and for the purpose set forth.

No. 34,578. Undergarment.

(*Vêtement de dessous.*)

William A. Harder, Lansingburgh, and Charles A. Brown, Troy, N.Y., U.S., 25th June, 1890; 5 years.

Claim.—As a new article of manufacture, an undergarment, composed throughout of two plies of knitted fabric, superimposed one upon the other, each ply having a smooth surface approximately free from extraneous matter on one side, and a rough surface on the other side, the rough surfaces being concealed between such superimposed plies, substantially as described.

No. 34,579. Machine for Making Cigarettes.

(*Machine à faire les cigarettes.*)

Frank J. Ludington, Waterbury, Conn., U.S., 26th June, 1890; 5 years.

Claim.—1st. In a machine for making cigarettes, the combination of mechanism, substantially such as described, to present and feed the mass of tobacco, a delivery table, a transverse vertically-reciprocating presser bar, a deliverer, having a comb-shaped edge, with

mechanism, substantially such as described, to impart an up and down and backward and forward movement to said deliverer over said delivery table, with rolling mechanism, substantially such as described, to receive the tobacco from said deliverer and roll the tobacco into cylindrical shape, substantially as described. 2nd. In a machine for making cigarettes, the combination of mechanism, substantially such as described, to present and feed the mass of tobacco, a delivery table *a*, over which the mass of tobacco is presented, a transverse vertically reciprocating presser bar *b*, a deliverer, consisting of the comb *n*, having an up and down and backward and forward movement imparted to it over said table *a*, a follower 5 arranged to move with the said comb, but so as to receive an up and down movement independent of said comb, with rolling devices to receive the tobacco from the said deliverer, and roll it into cylindrical shape, substantially as described. 3rd. In a machine for making cigarettes, the combination of the delivery table *c*, transverse vertically reciprocating presser-bar *b*, a deliverer, consisting of the bar *l*, comb *n* upon its rear side, and guard *m* upon its front side, and adapted to receive an up and down and backward and forward movement, a follower 5 in said deliverer, between the comb and guard, with rolling devices, substantially such as described and substantially as specified. 4th. In a machine for making cigarettes, a tobacco delivering apparatus, consisting of a table *a*, a comb *n*, with mechanism to impart up and down and backward and forward movement to said comb, a follower 5, arranged to move back and forward with said comb, but without partaking of the up and down movement of the comb, with a scraper 12, arranged to move vertically through the said table, and into the path of the rearward movement of said follower, substantially as and for the purpose described. 5th. In a machine for making cigarettes, mechanism, substantially such as described, for delivering the requisite quantity of tobacco, a rolling table 16, an apron 18 attached to the forward edge of said table, the rear end of the apron attached to a swinging rod 19 below the tobacco delivering device, the guard 35 hung upon a rock-shaft beneath the rolling table and below the apron in its normal position, but adapted to pass over the table, doubling the apron thereon, a pair of spindles 41, corresponding in diameter to the diameter of the cylinder of tobacco to be rolled, one spindle yieldingly resting on the upper surface of the apron, above and in advance of the said guard 35 in the normal position, substantially as described, and so that the said guard as it advances onto the table, will double the apron around said spindles. 6th. In a tobacco rolling mechanism, the combination of a rolling table 16, the apron 18 attached by one end to the forward edge of the table, and extending rearward, its rear end hung to a swinging bar 19, a guard 35 supported upon arms 34, extending from a rock-shaft beneath the said rolling table, the said guard normally standing in rear of said rolling table, and below the apron, mechanism for imparting a rocking movement to said arms 34, to carry the said guard over the rolling table, arms 37 pivoted to the arms 34 by slotted connections, so that said arms 37 may swing on their pivots and also be permitted a movement in the direction of their length, the said arms 37, each carrying a spindle 41, in diameter corresponding to the diameter of the cylinder of tobacco to be rolled, each arm resting upon the upper side of the apron, and normally forward of said guard 35, springs 39 applied to said spindle arms to yieldingly hold the spindles upon the apron and against a stop forward of said spindle arms, and whereby said spindle arms may be permitted both a swinging and vertical movement independent of the said guard, all substantially as and for the purpose described. 7th. In a machine for making cigarettes, the combination of mechanism for delivering the requisite quantity of tobacco, a rolling table, an apron over said table secured to the forward edge of the table, and extending rearward, its other end connected to a swinging-bar 19, mechanism, substantially such as described, to impart rolling movement to said apron after the tobacco shall have been presented thereon, a pair of jaws adapted to receive the wrapper, the said jaws hung upon a vertical axis at one side of the rolling table, mechanism, substantially such as described, for imparting to said jaws a swinging movement in a horizontal plane from transversely across the rolling table to a position at one side, and substantially parallel with the path of movement of the rolling devices, and in which last-mentioned position said jaws are adapted to receive the wrapper and transfer the same by one quarter turn to the said rolling devices, substantially as specified. 8th. In a machine for making cigarettes, the combination of mechanism for delivering the requisite quantity of tobacco, a rolling table, an apron over said table, secured to the forward edge of the table and extending rearward, its other end connected to arms 19, mechanism, substantially such as described, to impart rolling movement to said apron after the tobacco shall have been presented thereon, a paper table upon which the paper for the wrapper is presented, parallel with the path of movement of the rolling devices, but at one side thereof, a carriage to which a reciprocating movement is imparted in a plane parallel with the said paper table, and the path of movement of the rolling devices, a pair of jaws hung on a vertical shaft in said carriage, and so as to swing in a horizontal plane from a position longitudinally in line with the said paper table, to a position transversely across the rolling table, said jaws under and grasp movement of said carriage, being adapted to pass onto and grasp the paper on said table, with mechanism, substantially such as described, to open and close said jaws, and a pair of cutters adapted to receive the requisite length of paper, substantially as and for the purpose described. 9th. In a machine for making cigarettes, a rolling table, a rolling apron attached to said table, mechanism, substantially such as described, to impart the tobacco rolling movement to said apron, a pair of wrapper receiving and delivering jaws hung upon a vertical axis at one side of said rolling table, with mechanism, substantially such as described, to impart swinging movement to said jaws, from a position over said table at right angles to the path of movement of the rolling devices, to a position at one side, substantially parallel with the path of movement of the said rolling devices, mechanism, substantially such as described, to open and close said jaws, said jaws being adapted to receive the wrapper when standing in the said parallel position, with a paste roll parallel with said jaws when in the said parallel position, the said paste roll adapted to advance onto the edge of the wrapper held by the said jaws, substantially as described.

No. 34,580. Process of Making Roll Forgings. (*Procédé de laminage.*)

George D. Burton, Boston, Mass., U.S., 26th June, 1890; 5 years.

Claim.—1st. That improvement in the art of making metallic forgings, which consists in passing a bar or rod of the material to be forged by successive steps between forging dies, subjecting the bar or rod to the softening action of a current of electricity at such times as it is free from the dies and withholding the current when said rod is in contact with the dies. 2nd. The improved process of making rolled forgings, which consists in subjecting the material to a heating current of electricity upon its separation from the forging dies, and freeing it from said current before contact with said dies. 3rd. The improved process of making metallic forgings, which consists in subjecting the material to a softening current of electricity while out of contact with the forming dies, said current being broken as the dies engage the material and closed as they leave it, substantially as described. 4th. The method of roll forging articles from a metallic bar, which consists in subjecting said bar to the action of a heating current of electricity and to a rolling operation at right angles to the axis of the bar. 5th. The method of roll forging articles from a metallic bar, which consists in subjecting said bar to a succession of rolling operations at right angles to the axis of the bar and to a heating current of electricity between the successive rolling operations. 6th. The method of roll forging articles from a metallic bar, which consists in subjecting the bar to a succession of rolling operations at right angles to the axis of the bar, intermittently feeding said bar between said rolling operations and subjecting the bar intermittently to the action of a heating current of electricity between the rolling operations. 7th. The combination of two movable dies, a bar feeder for feeding a bar at right angles to the movements of the dies, and an electric circuit for passing a heating current through said bar. 8th. The combination of two roll forging dies, a bar feeder for intermittently feeding a metallic bar at right angles to the path of the dies, an electric circuit for passing a heating current through said bar, and an automatic circuit changer for holding the circuit open while the dies are in action. 9th. The combination of two roll forging dies, a bar feeder for intermittently feeding a metallic bar at right angles to the path of the dies, and an electric circuit provided with adjustable terminals for connection with said bar. 10th. The combination of two dies, an insulated bar support, an insulated bar feeder, and an electric circuit for heating the bar being operated on. 11th. The combination of two dies, an insulated bar support, an insulated bar feeder, an electric circuit for heating the bar being operated on, and an automatic circuit changer for holding the circuit open while the dies are in contact with the bar, and closing the circuit when the dies release the bar. 12th. The combination of forging dies, insulated supports for the blank to be forged, a movable clamping sleeve, a lever connected with said sleeve for reciprocating it, and a cam for oscillating said lever. 13th. The combination of forging dies, insulated supports for the blank to be forged, a sleeve provided with an eccentric clamping disk, a lever connected with said sleeve for reciprocating it, a cam for actuating said lever, and an electric circuit having two adjustable electrodes for connection with said bar. 14th. The combination of two forging dies, a bar feeder for feeding a bar to said dies, and adjustable electrodes for passing a heating current through said bar. 15th. An adjustable electrode for a forging machine comprising a slotted arm, a slide supported on said arm and insulated therefrom, and a spring for actuating said slide, said slide being connected with an electric circuit and provided with a stud for contact with the blank to be heated.

No. 34,581. Vessel for Measuring Sugar, etc. (*Vaisseau pour mesurer le sucre, etc.*)

George H. Hazelton, Boston, Mass., U.S., 27th June, 1890; 5 years.

Claim.—1st. In a pitcher or vessel having a mouth piece provided with a neck closed at its top, and an eduction chamber communicating with the said neck and the vessel, the ledges *m* arranged within said neck, and the gate *E* pivoted therein, the latter, when the vessel is tilted forward, operating with the ledges to close the bottom of said eduction chamber, and when the vessel is upright to open said bottom, essentially as and for the purpose explained. 2nd. The combination, with the tapering mouth piece *B* surmounted by a neck *b*, and an eduction chamber *f* communicating with each other, of the dome *C* hinged to said neck, and the spring catch adapted to fasten said dome in position, essentially as shown and set forth. 3rd. The combination of the mouth piece *B*, the neck *b*, and eduction chamber *f* communicating with each other, the dome *C*, the ledges *m* and the gate *E* pivoted within said neck, the cover *g* and the bail fixed to the latter and pivoted to the neck. 4th. The combination of the vessel *A*, mouth piece *B* provided with the neck *b*, and chamber *f* communicating with each other and the vessel, the dome *C*, ledges *m* and gate *E*, said gate adapted to operate with the ledges, as and for the purpose explained. 5th. The combination of the vessel *A*, mouth *B* provided with the neck *b* closed at top, the chamber *f* communicating with the said neck and the vessel, the ledges *m* and the gate *E*, as and for the purpose explained.

No. 34,582. Improvements in Processes of Lining Boilers or Digesters and in and to such Boilers or Digesters. (*Perfectionnements dans les procédés de doublage des chaudières ou digesteurs et dans les chaudières ou digesteurs.*)

Hermann Brungger, Cannorsdorf, Germany. 27th June, 1890; 5 years.

Claim.—1st. The herein described process of forming on the interior surface of metallic boilers or digesters, a protective coating or lining, which consists in separating a salt from a suitable solution so that said salt will adhere to the inner surface of the boiler or digester, substantially as set forth. 2nd. The herein described pro-

cess of forming on the interior surface of metallic boilers or digesters a protective coating or lining, which consists in separating a salt from a suitable solution so that said salt will adhere to the inner surface of the boiler or digester and form a coating or lining insoluble in the fluid to be used, substantially as set forth. 3rd. The herein described process of forming on the interior surface of metallic boilers or digesters, a protective coating or lining, which consists in charging the boiler or digester with a solution of a salt or salts, such solution being of a character as to cause an incrusting precipitate to be formed by the agency of heat, and heating the said solution to cause the formation of such precipitate upon the interior surface of said boiler or digester, substantially as set forth. 4th. In the manufacture of cellulose by the sulphite process, the improvement which consists in forming on the interior surface of a metallic boiler or digester, a protective coating or lining insoluble in sulphite solution, such coating or lining being produced by decomposing, or partially decomposing by means of heat a sulphite solution while in contact with said surface, substantially as set forth. 5th. In the manufacture of cellulose by the sulphite process, the improvement which consists in forming on the interior surface of a metallic boiler or digester, a protective coating or lining insoluble in a sulphite solution, such coating or lining being produced by decomposing, or partially decomposing a sulphite solution by bringing the same in contact with said surface previously heated, substantially as set forth. 6th. In the manufacture of cellulose by the sulphite process, the improvement which consists in forming on the interior surface of a metallic boiler or digester a protective coating or lining insoluble in sulphite solution, such coating or lining being produced by decomposing or partially decomposing by means of heat a sulphite solution and revolving the digester during the operation, substantially as set forth. 7th. In the manufacture of cellulose by the sulphite process, the improvement which consists in forming on the interior surface of a metallic boiler or digester, a protective coating or lining being produced by charging the boiler or digester with a sulphite solution and with the material to be treated, and in decomposing, or partially decomposing by means of heat said sulphite solution simultaneously with the reduction of the fibrous material, substantially as set forth. 8th. A metallic boiler or digester having its interior surface provided with a protective coating or lining of a salt or salts precipitated upon said surface, substantially as set forth. 9th. As an improvement in apparatus for manufacturing cellulose by the sulphite process, a metallic boiler or digester having its interior surface provided with a protective coating or lining of a sulphur salt or sulphur salts of the alkaline earths, precipitated upon said surface, and insoluble in sulphite solutions, substantially as set forth. 10th. As an improvement in apparatus for manufacturing cellulose by the sulphite process, a metallic boiler or digester having its interior surface provided with a protective coating or lining of a sulphur salt or sulphur salts of the alkaline earths, precipitated upon said surface, and insoluble in sulphite solutions, substantially as set forth. 11th. As an improvement in apparatus for manufacturing cellulose by the sulphite process, a metallic boiler or digester having its interior surface provided with a protective coating or lining of a sulphur salt or sulphur salts of calcium precipitated upon said surface, and insoluble in sulphite solutions, substantially as set forth. 12th. As a metallic digester or boiler having its interior surface provided with a protective coating or lining consisting in part of a sulphite and insoluble in sulphite solutions, substantially as set forth.

No. 34,583. Barrel Truck and Jack. (*Chariot et cric à barils.*)

James H. Stansbury, Laurence, and Isaac W. Hyatt, Jamaica, N.Y., U.S., 27th June, 1890; 5 years.

Claim.—1st. A barrel truck and jack, provided forward of its wheels with two curved side plates forming a rocker fulcrum, substantially as shown and described. 2nd. A barrel truck and jack, provided forward of its wheels with two curved side plates forming a rocker fulcrum, and separate nose plates secured at the forward ends of said side plates, substantially as shown and described. 3rd. A barrel truck and jack, constructed with a wheeled frame, barrel supports thereon, and a rocker fulcrum below the frame and forward of its wheels, consisting of two curved side plates secured to the side bars of the frame, and separate nose plates secured at the junction of the forward ends of the side plates and side bars, substantially as shown and described. 4th. In a barrel truck and jack, the combination, with the truck frame and a vertically adjustable barrel support or saddle provided with hooks at opposite ends, of a stay chain connected to the saddle hooks and passing over the barrel, substantially as shown and described. 5th. In a barrel truck and jack, the combination, with the frame having side bars *a*, of chocks *C*, a screw-threaded and perforated stay bar *B*, passed through the side bars and chocks, provided with nuts at its extremities, and pins passed through said stay bar next the chocks, substantially as shown and described. 6th. In a barrel truck and jack, the combination, with the frame, of a bearing *M*, thereon, provided with a set screw, and a vertically adjustable saddle having a stem fitted in the bearing and adapted to be clamped by the screw, substantially as shown and described. 7th. In a barrel truck and jack, the combination, with the frame side bar *a*, and rocker fulcrum plates *F*, secured to the side bars, of angle irons *G* secured at the point of junction of the forward ends of the fulcrum plates and side bars, substantially as shown and described.

No. 34,584. Carpet Cleaning Machine. (*Machine à nettoyer les tapis.*)

William Bowman, Battle Creek, Mich., U.S., 27th June, 1890; 5 years.

Claim.—1st. A revoluble carpet cleaning cage provided with a

series of chambers or pockets projecting outwardly from the body of the cage, each chamber or pocket having at its junction with the body of the cage a strip projecting inwardly from one side, and forming a retainer to hold the carpet in the chamber or pocket, substantially as shown and described. 2nd. A revoluble carpet cleaning cage, consisting of the hubs 10, provided with the spokes 12 and 13, the tangentially arranged strips 14, to which the spokes 12 are attached, the said strips 14 serving as retainers, the tangentially arranged strips 15, to which the spokes 13 are attached, the strips 22, 15, and the slats 21 secured to the frame work 20, the said frame work 20 and slats 21 serving as receiving chambers or pockets, substantially as herein shown and described.

No. 34,585. Thread Box. (*Boîte à fil.*)

William F. Hutchison, Lynn, Mass., U.S., and Matthew M. McCarthy, Sherbrooke, Que., 28th June, 1890; 5 years.

Claim.—1st. As a new article of manufacture, a box having a central body portion and removable ends or covers, substantially as described. 2nd. As a new article of manufacture, a box having a body portion provided with a central horizontal shelf or partition, and having removable ends or covers, substantially as described. 3rd. A thread box consisting essentially of a body portion having a central horizontal shelf or partition, vertical spindles projecting from each side of said partition, and removable ends or covers, essentially as described.

No. 34,586. Composition of Matter to be used in the Manufacture of Paint. (*Composition de matières pour servir à la fabrication de la peinture.*)

John H. Baker and Charles Shackelford, Chicago, Ill., U.S., 28th June, 1890; 5 years.

Claim.—The herein described composition of matter to be used for paint, consisting of white primer, boiled linseed oil, raw linseed oil, whiting, water, plaster of Paris, white glue, alum, and white lead, substantially in the proportion and for the purpose set forth.

No. 34,587. Carpet Stretcher. (*Tire-tapis.*)

The St. Lawrence Steel and Wire Company, (assignee of Thomas E. Meggs), Gananogue, Ont., 28th June, 1890; 5 years.

Claim.—1st. In a carpet stretcher, the combination of a block provided at the bottom with card clothing or series of teeth or pins adapted to grip evenly an extended surface of carpet or other fabric, a hook-bar provided with a hook at the end adapted to engage a floor, said block held to said bar and adapted to slide thereon longitudinally, a ratchet rack secured to said block and adapted to hold said bar thereto and allow it to slide thereon, a ratchet bar secured to said hook bar so as to have a slight rocking motion, and provided with a pawl hook adapted to engage the ratchet rack, a link secured to said ratchet bar so as to have a slight rocking motion and adapted to hold a hand lever pivotally at its free end, a hand lever pivoted to said link and adapted to engage the ratchet rack, substantially as set forth. 2nd. In a carpet stretcher, the combination of a block provided at its lower surface with card clothing, or equivalent, for engaging evenly a surface of carpet or other fabric, a hook-bar or rod provided at its end with a hook adapted to be driven or otherwise secured to a flooring, and said block adapted to be held to said bar or rod and to slide thereon longitudinally, substantially as set forth. 3rd. In a carpet stretcher, the combination of the block A furnished with card clothing C, or equivalent at the bottom, and a groove at the top, a bar or rod B having a hook b held to said block and adapted to slide thereon longitudinally, a plate D having a ratchet rack d secured to the block A over the groove, and adapting the same for a sliding rod or bar B, and a ratchet bar E pivoted to said bar B and provided with a pawl hook adapted to engage the rack d, substantially as set forth. 4th. The combination of a block A furnished at its bottom with card clothing or teeth adapted to engage a fabric, a hook bar B provided with a hook b and adapted to slide on said block A longitudinally, a plate D holding said bar B E pivoted to the draw bar B and provided with a pawl hook e, adapted to engage the rack d, a link F pivoted to the ratchet bar E and hold to said link F and adapted to engage the rack d, substantially as set forth.

No. 34,588. Wheat Breaking Machine. (*Machine à concasser le blé.*)

Andrew St. Denis and James Wilson, Merriton, Ont., 28th June, 1890; 5 years.

Claim.—1st. In a wheat breaking machine, a cylindrical casing K provided with an integral corrugated ring O, in combination with a corrugated cone D, and a universal coupling C, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of a frame A and a lever N, capable of supporting and adjusting vertically a casing K pivoted at N¹ having a ring O, shaft B, cone D and saucer E, the tube F and the coupling C, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, in a wheat breaking machine, of a casing K pivoted to the lever N at N², and fulcrumed at N¹ to the frame A, the coupling C, shaft B, cone D, saucer E, tube F having collar I, spring cross lever H, screws G and M, and the integral corrugated rings O and P, substantially as and for the purpose hereinbefore set forth.

No. 34,589. Saw Mill Dog. (*Clameau de scierie.*)

George M. Hinkley and The Edward P. Allis Company, Milwaukee, Wis., U.S., 28th June, 1890; 5 years.

Claim.—1st. In combination with a head-block or log-support a knee, dogs mounted upon the knee and free to slide vertically relatively thereto, and an operating lever for the dogs adapted to move therewith, as the said dogs rise and fall with the timber. 2nd. In combination with a head-block or log-support, a knee and dogs mounted upon the knee and free to slide vertically and also to swing laterally with reference to their support, and a lever for operating the dogs, the lever and dogs being adapted to be swung out of the way, as shown. 3rd. In combination with a head-block or log-support, a knee and dogs mounted therein and free to slide vertically relatively thereto, whereby the dogs are permitted to adjust themselves to the lowering of the timber. 4th. In combination with a head-block or log-support, a knee, a rod or stem secured thereto, a jaw L, provided with a tubular sleeve H, a jaw M, mounted upon the sleeve, a lever journaled in the jaw L, and a link connecting the lever with the jaw M. 5th. In combination with a head-block or log-support, a knee, a rod or stem secured thereto, a jaw L, provided with a tubular sleeve H, a jaw M, mounted upon the sleeve, a lever journaled in the jaw L, a link connecting the lever with jaw M, and a stem or handle N, secured to jaw L. 6th. The combination, with a saw mill carriage, of a head-block or log-support, a knee mounted on the head-block, jaws or dogs applied to the knee in such manner as to rise and fall together, but capable of independent movement, substantially as described, and a lever connected with the jaws for causing this independent clamping movement.

No. 34,590. Saw Mill Dog. (*Clameau de scierie.*)

George M. Hinkley and The Edward P. Allis Company, Milwaukee, Wis., U.S., 28th June, 1890; 5 years.

Claim.—1st. In combination with the knee of a saw mill carriage, a lever pivoted thereto, an extensible cant-hook secured to the lever, and a spud-dog also secured to the lever, all substantially as shown. 2nd. In combination with a plate having ways or guides, a dog mounted in said ways, a lever pivoted to the plate, a link connecting the dog and lever, and a cant-hook pivoted to the lever, all substantially as shown and described. 3rd. In combination with a plate D, having ways or guides, a dog mounted therein, a lever pivoted to the plate and connected with the dog, a bar H, pivoted to the lever and provided with holes or perforations h, a bar I, mounted upon the bar H, and a spring-pressed pin carried by the bar I to engage the perforations. 4th. In combination with a plate D, having ways or guides and ratchet teeth, a lever pivoted to the plate, a dog mounted in the ways or guides and connected with the lever, a cant-hook pivoted to the lever, and a pawl carried by the lever to engage the ratchet teeth. 5th. In combination with plate D, having a stop notch, a lever pivoted to the plate, and provided with a pawl to engage the notch, a cant-hook pivoted to the lever, and a dog mounted upon the plate and connected with the lever. 6th. In combination with plate D, lever G, pivoted thereto and provided with hook M, a cant-hook pivoted to the lever and adapted to be supported by the hook M, and a dog mounted upon the plate and connected with the lever. 7th. In combination with the knee of a saw mill carriage, an operating lever pivoted thereto, an extensible cant-hook secured to the lever and adapted to engage the upper face of the log, and a spud-dog also secured to the lever and adapted to engage the lower face of the log, all substantially as shown.

No. 34,591. Composition for Paving or Covering Roads and Ways, Floors and other Surfaces. (*Composition pour couvrir les chaussées, planchers et les autres surfaces.*)

The Patent Cork Pavement Company, (assignee of James A. Parker), Melbourne, Victoria, 28th June, 1890; 5 years.

Claim.—The admixture of cork in and with asphaltum, bitumen tar, pitch or other bituminous material, to form an improved composition for paving or covering roads and ways, floors and other surfaces, substantially as herein described and explained.

No. 34,592. Sewer Trap. (*Trappe d'égout.*)

Daniel Higgins, Revere, and James J. Costello, Boston, Mass., U.S., 28th June, 1890; 5 years.

Claim.—1st. The combination, substantially as and for the purpose set forth, of a receptacle for drainage, an inclined chamber opening into the side of the receptacle near the top of the same and connecting the receptacle with the sewer, a hinged check valve in the chamber and closing the entrance to the same and opening outwardly by the pressure of the water in the receptacle, a hinged hood within the receptacle above the entrance to the chamber and extending below this entrance, the vertical edges of these plates being against the wall of the receptacle and the inclined edges supporting the hood. 2nd. The combination, substantially as and for the purpose set forth, of a receptacle for receiving the waste water from the sinks of a building, a chamber opening into the side of the receptacle near the top of the same and connecting the receptacle with the sewer, a hinged check valve in the chamber opening outwardly by the pressure of the water in the receptacle, a hinged hood within the receptacle above the entrance to the chamber and extending below this entrance, a soil pipe communicating with the chamber and a check valve in the chamber for closing the mouth of the soil pipe. 3rd. The combination, substantially as and for the purpose set forth, of the drainage receptacle A, the inclined chamber B opening into the side of the receptacle near the top of the same, the hinged check valve J bearing against a seat b, the hood I, hinged above the en-

trance to the chamber and extending below the same, the flanges *a*, on the sides of the said hood and the triangular shaped plates H, H, on each side of the entrance to the chamber. 4th. The combination, substantially as and for the purpose set forth, of a receptacle for receiving the waste water from the sinks of a building, an inclined chamber opening into the side of the receptacle near the top of the same and connecting the receptacle with the sewer, a soil pipe opening into said chamber, and the hinged check valve within the chamber and adapted to be opened by the water flowing from the receptacle, whereby the material discharged from the soil pipe is carried into the sewer.

No. 34,593. Hose Nozzle Apparatus for Fire, Mining and Other Purposes. (*Appareil à lance de boyau pour incendie, les mines et autres fins.*)

Robert Menaugh and Frank P. Whitney, Victoria, B. C., 28th June, 1890; 5 years.

Claim.—1st. In a swivelled hose nozzle, the combination of the bent nozzle *b*, with stuffing box *l*, held together by the groove and set screws, all substantially as and for the purpose specified. 2nd. In a swivelled hose nozzle, the combination of the bent nozzle *b*, the stuffing box *l*, held together by the groove and set screws, together with the internal gearing and rods *d*, *g*, *e*, and stuffing box *l*, bracket *k* and grid *k*, substantially as and for the purpose hereinbefore set forth. 3rd. In a hose nozzle, the combination of the nozzle *b*, body *c*, stuffing box *l*, together with the supply pipe *a* held together by the groove and set screws, substantially as and for the purpose specified. 4th. In a hose nozzle, the combination of the nozzle *b*, body *c*, stuffing box *l*, and supply pipe *a*, held together by the groove and set screws, together with the hollow bent legs *p* and shaft *f*, substantially as and for the purpose hereinbefore set forth. 5th. In a water tower, the combination of the ladder, together with the supply pipe *a*, with stuffing box *l*, body *c* with stuffing box *l*, and nozzle *b* with grid *k* and internal gearing and rods *d*, *g*, *e*, and stuffing box *l*, also shaft and grid *f*, *p*, all substantially as and for the purpose specified. 6th. In a water tower, the combination of the ladder with body of nozzle apparatus *c*, with three stuffing boxes *l*, *l*, *l*, and nozzle *b*, supply *a* and internal gearing and rods *d*, *g*, *e*, and grid *k*, together with the sprocket wheel *r*, all substantially as and for the purpose specified. 7th. In a water tower, the combination of the ladder with body of nozzle apparatus *c*, with three stuffing boxes *l*, *l*, *l*, and nozzle *b*, supply pipe *a* and internal gearing and rods *d*, *g*, *e*, and grid *k*, also sprocket wheel *r* together with the legs *p*, and shaft *f*, and gearing or worm and wheel, as *t*, *v*, also sprocket wheel and axle *s*, all substantially as and for the purpose hereinbefore set forth. 8th. The combination of all the above, together with ropes, chains or rods for working same from below, all substantially as and for the purpose specified.

No. 34,594. Manufacture of Compressed Cakes of Soap. (*Fabrication des tablettes de savon pressées.*)

Chesebrough Manufacturing Company, Consolidated, (assignee of Edward G. Brown.) Brooklyn, N. Y., U. S., 28th June, 1890; 5 years.

Claim.—The improvement, in the manufacture of compressed cakes of soap, consisting in, first, making the soap into bars, and, afterwards, subjecting the bars directly to the action of dies, which by one continuous operation cut off from the bar a portion of soap sufficient for a cake, and press the portion so cut off into the form required for the cake, substantially as herein set forth.

No. 34,595. Therapeutic Terra Poise. (*Globe-pondérateur thérapeutique.*)

Thomas H. Hicks, Detroit, Mich., U. S., 30th June, 1890; 5 years.

Claim.—1st. In combination, the herein described cooling tank and inclosing case, said case provided with a glass in its front, substantially as described. 2nd. In combination, the herein described cooling tank formed of a metallic case, and an outer case inclosing said tank, said metallic case provided with a connecting post, substantially as described. 3rd. In combination, the herein described cooling tank and inclosing case, said tank and case provided with an intermediate water proof lining, substantially as described. 4th. In

combination, the herein described cooling tank and inclosing case forming a compartment *D*², substantially as described. 5th. In combination, the herein described cooling tank, the inclosing case provided with a glass on its front, forming a compartment *D*² and a miniature earth located in said compartment and electrically insulated from said tank, substantially as described.

No. 34,596. Car Coupling. (*Attelage de chars.*)

Lucius A. Farrar, Shelbyville, Tenn., U. S., 30th June, 1890; 5 years.

Claim.—1st. In an automatic car-coupling, the combination of the draw-head B, having the flaring opening *a*, and groove or grooves *b*, *b*, holes *i*, *i*, spring-actuated plate E, with the spring-clutches C, C, provided with pins or projections *c*, *c* to engage in groove *b*, *b*, and a pin *a*¹, having heads *m* and shoulders *n* at each end, substantially as shown and described. 2nd. In an automatic car-coupling, the combination of the draw-head B, having the flaring opening *a*, groove *b*, holes *i*, *i*, with the spring-clutches C, C, provided with pins or projections *c*, *c*, a link pin *a*¹, having a tapering head *m* and shoulders *n* at each end, and chains *e*, *e*, substantially as shown and described. 3rd. In an automatic car-coupling, the combination of the draw-head B, having the flaring opening *a* and holes *i*, *i*, chains *e*, *e*, with the spring-clutches C, C, and pin *a*¹, having a tapering head *m* and shoulders *n* at each end, substantially as shown and described and for the purpose set forth. 4th. In an automatic car-coupling, the combination of the draw-head B, having the flaring opening *a*, grooves *b*, *b*, holes *i*, *i*, removable top plate G, ears *d*, *d*, provided with pulleys D, D, and spring-actuated plate E, with the spring-clutches C, C, provided with pins *c*, *c*, and means for securing to the loose end of the clutches the chains *e*, *e*, and a pin *a*¹, having a tapering head *m* and shoulder *n* at each end, all constructed, arranged and operating substantially as shown and described and for the purpose set forth. 5th. In an automatic car-coupling, the combination of the draw-head B, having the flaring opening *a*, grooves *b*, *b*, holes *i*, *i*, removable top plate G, ears *d*, *d*, provided with pulleys D, D, and spring-actuated plate E, with the spring-clutches C, C, provided with pins *c*, *c*, and means for securing the chains *e*, *e* thereto, a pin *a*¹, having a tapering head *m* and shoulders *n* at each end, a vertical bar *g*, pivoted at *g*¹ and having the chains *e*, *e*, secured thereto near its lower end, one above and the other below the pivot *g*¹, the guide *h*, the pulley *l*, and chains or cords K, K, all constructed, arranged and operating substantially as shown and described, and for the purposes set forth.

No. 34,597. Apparatus for the Decantation of Liquids, and more particularly for the Purification of Water. (*Appareil de décantation des liquides et plus parti culièrement pour la purification de l'eau.*)

Paul H. A. Gaillet, Lille, France, 30th June, 1890; 5 years.

Claim.—1st. The combination, in a decantation apparatus, intended more particularly for the purification of water, of a cylindrical or prismatic receiver R, with central tube B, and deposit surfaces E inclined toward the centre and pierced with alternate openings K, a filter F, and an apparatus, S for preparing the reagent, the said decantation apparatus being arranged and working in the manner substantially as described. 2nd. The method of constructing the apparatus, consisting especially in the use of a series of plates E, inclined and converging towards a central tube B, provided with a series of orifices O placed respectively facing each plate, the said plates being arranged in stages and not jointed, so that the spaces K left between two plates of a stage correspond with the middle of the plates of the adjoining stages, all substantially as set forth. 3rd. The arrangement of one or more exterior filters F, which may or may not be isolated and cleaned without interruption of the working of the said apparatus, as above explained, with reference to the annexed drawing. 4th. The arrangement, in the said apparatus, of the continuous preparer of the reagent (water and lime) in the space which remains vacant at the upper part of the purifier, in the manner described, with or without independent receiver D¹ to contain the provision of lime, and in such wise that the level is the same in the preparer S and in the water vat X, and in combination therewith, a central receiver U in connection with the reservoirs of reagent, all substantially in the manner and with the object set forth with reference to the accompanying drawings. 5th. The floating regulators L, ensuring the coincidence of the levels in all the receivers of water and reagent X and S, constructed and arranged to operate substantially in the manner and with the object set forth with reference to the accompanying drawings.

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

1825. THE NATIONAL TYPOGRAPHIC CO. (assignees), 2nd 5 years of No. 21,800, from the fifth day of June, 1890. Improvements on Matrix Making and Printing Machines, 2nd June, 1890.
1826. THE NATIONAL TYPOGRAPHIC CO. (assignees), 2nd 5 years of No. 21,918, from the seventeenth day of June, 1890. Improvements on Machines for Producing Stereotype Matrices, etc., 2nd June, 1890.
1827. THE NATIONAL TYPOGRAPHIC CO. (assignee), 2nd 5 years of No. 22,657, from the thirtieth day of October, 1890. Improvements on Machines for producing Type Bars and Matrices for Type Surfaces for Letter Press Printing, 2nd June, 1890.
1828. THE NATIONAL TYPOGRAPHIC CO. (assignees), 2nd 5 years of No. 22,754, from the fourth day of November, 1890. Improvements on Machines for Producing Relief Surfaces for Letter Press Printing, 2nd June, 1890.
1829. W. MARTIN, 2nd 5 years of No. 21,821, from the sixth day of June, 1890. Improvements in Pipe Coupling, 4th June, 1890.
1830. THE ONTARIO WIRE FENCING CO. (assignees), 2nd 5 years of No. 22,115, from the twentieth day of July, 1890. Improvements in Wire Netting Machines, 7th June, 1890.
1831. S. VERNOY, 2nd 5 years of No. 21,840, from the ninth day of June, 1890. Improvements on Electro-Medical Batteries, 7th June, 1890.
1832. S. HALL, 2nd 5 years of No. 22,485, from the eighteenth day of September, 1890. Improvements in Bridges, 9th June, 1890.
1833. H. C. GOODELL, 2nd 5 years of No. 21,959, from the second day of July, 1890. Improvements in Refrigerators and Refrigerator Cars, 12th June, 1890.
1834. A. D. CROSBY, 2nd 5 years of No. 21,969, from the second day of July, 1890. Improvements in Combination Tools, 12th June, 1890.
1835. W. H. RUSHFORTH, 2nd 5 years of No. 21,871, from the thirteenth day of June, 1890. Improvements on Apparatus for supplying Locomotive or Stationary Engines' Boilers with Water, 13th June, 1890.
1836. J. A. MATHIEU, 2nd 5 years of No. 21,883, from the fifteenth day of June, 1890. Improvements in Apparatus for Carbonizing Saw-dust, Bagasse, etc., 14th June, 1890.
1837. J. H. REINHARDT and G. SCHMALZRIED, 2nd 5 years of No. 21,915, from the seventeenth day of June, 1890. Improvements in Consecutive Numbering Machines, 16th June, 1890.
1838. L. D. HURD and N. UPPER, 2nd 5 years of No. 21,912, from the twenty-third day of June, 1890. Improvements in Waggon, 17th June, 1890.
1839. HERSEY BROTHERS, 2nd 5 years of No. 22,474, from the seventeenth day of September, 1890. Improvements on Fluid Heaters, 18th June, 1890.
1840. J. GOOD, 2nd 5 years of No. 22,117, from the twentieth day of July, 1890. Improvements in Machines for Drawing and Spinning Hemp and other Fibrous Materials, 19th June, 1890.
1841. J. GOOD, 2nd 5 years of No. 22,118, from the twentieth day of July, 1890. Improvements in Machines for Drawing and Spinning Hemp and other Fibrous Materials, 19th June, 1890.
1842. J. GOOD, 2nd 5 years of No. 22,119, from the twentieth day of July, 1890. Improvements in Spindles and Fliers, such as are used in spinning Rope Yarns, etc., 19th June, 1890.
1843. J. GOOD, 2nd 5 years of No. 22,157, from the thirtieth day of July, 1890. Improvements in Spindles and Fliers for Spinning Hemp and other Fibrous Materials, 19th June, 1890.
1844. F. D. BUTTERFIELD and F. G. BUTTERFIELD, 2nd 5 years of No. 21,981, from the third day of July, 1890. Improvements in Screw Plates, 19th June, 1890.
1845. S. O. BRIGHAM, 2nd 5 years of No. 22,124, from the 21st day of July, 1890. Improvements in Bolting Cloths and in means for Manufacturing the same, 19th June, 1890.
1846. G. D. WHITCOMB (assignee), 2nd 5 years of No. 11,444, from the thirtieth day of June, 1890. Improvements on Mining Machines, 20th June, 1890.
1847. THE HONORABLE C. A. PARSONS, 2nd 5 years of No. 22,122, from the 21st day of July, 1890. Improvements on Rotary Motors, actuated by Elastic Fluid Pressure, and applicable also as Pumps, 20th June, 1890.
1848. THE HONORABLE C. A. PARSONS, 2nd 5 years of No. 22,286, from the twenty-fourth day of August, 1890. Improvements on the Construction and Working of Apparatus for Generating Electricity, in part applicable to other Purposes, 20th June, 1890.
1849. THE MASSEY MANUFACTURING CO., 2nd 5 years of No. 22,012, from the sixth day of July, 1890. Improvements in Mowing Machines, 21st June, 1890.
1850. A. E. BROWN, 2nd 5 years of No. 21,962, from the second day of July, 1890. Improvements in Machinery for Hoisting and Conveying, 21st June, 1890.
1851. A. E. BROWN, 2nd 5 years of No. 21,963, from the second day of July, 1890. Improvements in Machines for Hoisting and Conveying, 21st June, 1890.
1852. A. E. BROWN, 2nd 5 years of No. 22,149, from the twentieth day of July, 1890. Improvements in Tramways, 21st June, 1890.
1853. A. E. BROWN, 2nd 5 years of No. 22,153, from the thirtieth day of July, 1890. Improvements in Machines for Hoisting and Conveying, 21st June, 1890.
1854. THE BROWN HOISTING AND CONVEYING MACHINE CO. (assignees), 2nd 5 years of No. 22,236, from the thirteenth day of August, 1890. Improvements in Hoisting and Conveying Machines, 21st June, 1890.
1855. THE BROWN HOISTING AND CONVEYING MACHINE CO. (assignees), 2nd 5 years of No. 22,248, from the thirteenth day of August, 1890. Improvements in Hoisting and Conveying Machines, 24th June, 1890.
1856. THE BROWN HOISTING AND CONVEYING CO. (assignees), 2nd 5 years of No. 22,295, from the 26th day of August, 1890. Improvements in Machines for Hoisting and Conveying, 24th June, 1890.
1857. THE BROWN HOISTING AND CONVEYING CO. (assignees), 2nd 5 years of No. 22,296, from the twenty-sixth day of August, 1890. Improvements in Apparatus for Discharging Contents of Vessels and Cars, and Conveying the same to Hoisting and Conveying Machines, 24th June, 1890.
1858. THE BROWN HOISTING AND CONVEYING MACHINE CO. (assignees), 2nd 5 years of No. 22,386, from the third day of September, 1890. Improvements in Caster Wheels for Hoisting Buckets, 24th June, 1890.
1859. THE BROWN HOISTING AND CONVEYING CO. (assignees), 2nd 5 years of No. 22,499, from the nineteenth day of September, 1890. Improvements in Automatic Dump Buckets for Hoisting and Conveying Machines, 24th June, 1890.
1860. W. S. JOHNSON, 2nd 5 years of No. 22,022, from the eighth day of July, 1890. Improvements on Electric Valves for Regulating Temperature, etc., 24th June, 1890.
1861. A. C. NAGEL, R. H. KAEMP and A. LINNENBRUGGER, 2nd 5 years of No. 30,292, from the twenty-eighth day of November, 1890. Improvements in Machines for Producing Press Cakes, 26th June, 1890.
1862. THE PATENT ELBOW CO. (assignees), 2nd 5 years of No. 22,339, from the first day of September, 1890. Improvements in Machines for Making Crimped Stove Pipe Elbows, 28th June, 1890.

JUNE LIST OF TRADE MARKS.

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

3741. AUGUSTA M. McLEOD, of Goderich, Ont. Mrs. McLeod's Specific Cure, 2nd June, 1890.
3742. AUGUST KLIPSTEIN, of New York, U.S.A. Castile Soap, 2nd June, 1890.
3743. JOHN McEWAN, of London, England. Tea, 2nd June, 1890.
3744. S. DAVIS & SONS, of Montreal, Que. Cigars, Cigarettes and Tobaccos, 3rd June, 1890.
3745. THE C. C. WASHBURN'S FLOURING MILLS CO., of Minneapolis, Minn., U.S.A. Flour.
3746. FLOUR.
3747. FLOUR, 6th June, 1890.
3748. PIGON, WILKS AND LAURENCE, LIMITED, of 11 Queen Victoria Street, London, etc., England. Explosive, 10th June, 1890.
3749. SAMUEL PATTERSON, of Toronto, Ont. General Mark, 11th June, 1890.
3750. JAMES LYALL, of New York, N.Y., U.S.A. Twine, 11th June, 1890.
3751. PHEMIQUE CHEMICAL COMPANY, of St. Louis, Mi., U.S.A. Antiseptic Compounds, 16th June, 1890.
3752. SARAH KILLACKEY, of Toronto, Ont. Medicine, 19th June, 1890.
3753. WILLIAM HENRY GUILD, of Shubenacadie, Co. of Hants, N.S. Liniments, 21st June, 1890.
3754. THOMAS KEARNEY AND COMPANY, of Montreal, Que. Tea, 23rd June, 1890.
3755. D. RITCHIE & CO., of Montreal, Que. Cigarettes, Tobaccos and Cigars, 23rd June, 1890.
3756. WILLS, DRAPER & CO., of Detroit Mich., U.S.A. Flavoring Syrup for Soda Fountains, 26th June, 1890.
3757. GEORGE E. TUNE AND ALEXANDER ROBERTSON, of Stratford, Ont. Soda Water, Pop and Ginger Ale, 26th June, 1890.
3758. AUGUST KLIPSTEIN, of New York, N.Y., U.S.A. Castile Soap, 28th June, 1890.
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5397. **THE TOSCIN. NO. 2. CALL THE ROLL.** Words by L. A. Morrison. Music by J. E. Lanceley. LieWellyn Abraham Morrison, of Toronto, Ont., 2nd June, 1890.
5398. **A HAND BOOK ON SABBATH SCHOOL WORK.** David Fotheringham, of Toronto, Ont., 2nd June, 1890.
5399. **CHRISTIAN BAPTISM,** by Rev. W. C. Wilkinson. William Briggs, (Book Steward of the Methodist Book and Publishing House), of Toronto, Ont., 3rd June, 1890.
5400. **ENTIRE CONSECRATION,** by the Rev. Ralph C. Horner, B. A.
5401. **HISTORY OF THE METHODIST CHURCH,** by T. Watson Smith. William Briggs, (Book Steward of the Methodist Book and Publishing House), of Toronto, Ont., 3rd June, 1890.
5402. **THE FIRM OF GIRDLESTONE,** by A. Conan Doyle. John Lovell & Son, of Montreal, Que., 4th June, 1890.
5403. **ELDORADO.** Waltz, by Popplewell Royle. The Anglo-Canadian Music Publishers' Association, (L'd), of London, England, 4th June, 1890.
5404. **ATLAS OF THE CITY OF TORONTO AND VICINITY.** Charles Edward Goad, of Montreal, Que., 4th June, 1890.
5405. **SHADOW PAINTING AND NOTES ON THE DECORATIVE ART,** by G. B. Smith. G. B. Smith, of Truro, N.S., 6th June, 1890.
5406. **N. HAYES' NATIONAL GUESSING AND CALCULATING CHART ON THE CENSUS OF 1891 IN CANADA.** Newlands Hayes, of Windsor, Ont., 6th June, 1890.
5407. **PROSPECTUS OF THE WORK ENTITLED: IN DARKEST AFRICA,** by Henry M. Stanley. Sampson, Low, Marston, Searle and Rivington, (L'd), of London, England, 6th June, 1890.
5408. **THE LADY EGERIA or BROUGHT TO LIGHT,** by John Berwick Harwood. John Lovell & Son, of Montreal, Que., 7th June, 1890.
5409. **HISTOIRE DU CANADA POPULARISÉE, "La Monongahéla,"** par Edmond Rouseau. C. Darveau, de Quebec, Que., 9 Juin, 1890.
5410. **CANADA.** Words by Samuel Whitt. Music by Mrs. M. J. Whitt. Samuel Whitt, of Toronto, Ont., 9th June, 1890.
5411. **APRIL'S LADY,** by "The Duchess." John Lovell & Son, of Montreal, Que., 10th June, 1890.
5412. **THE BURNT MILLION,** by James Payn.
5413. **BY ORDER OF THE CZAR,** by Joseph Hatton. John Lovell & Son, Montreal, Que., 11th June, 1890.
5414. **IMPROVED SABBATH SCHOOL TEACHERS' CLASS ROLL.** The Presbyterian Printing and Publishing Co., (L'd), of Toronto, Ont., 12th June, 1890.
5415. **IMPROVED SCHOOL REGISTER FOR THE USE OF SUPERINTENDENTS AND SECRETARIES.** The Presbyterian Printing and Publishing Co. (L'd), of Toronto, Ont., 12th June, 1890.
5416. **FIELD FLOWERS.** Waltz, by M. A. Weped. Whaley, Royce & Company, of Toronto, Ont., 12th June, 1890.
5417. **CANADA, A NATIONAL ANTHEM.** Words by John Imrie. Music by Prof. J. F. Johnstone. Imrie & Graham, of Toronto, Ont., 12th June, 1890.
5418. **LA FOI ET LA RAISON EN ELLES-MÊMES ET DANS LEURS RAPPORTS,** par l'abbé Louis Adolphe Paquet. Louis Adolphe Paquet, de Quebec, Que., 12 Juin, 1890.
5419. **LIFE OF JAMES EVANS,** by John McLean, M.A., Ph. D. William Briggs, (Book Steward of the Methodist Book and Publishing House), of Toronto, Ont., 13th June, 1890.
5420. **PROCEEDINGS AND TRANSACTIONS OF THE ROYAL SOCIETY OF CANADA FOR THE YEAR 1889, VOLUME VII.** Dawson Brothers, of Montreal, Que., for the Royal Society of Canada, 13th June, 1890.
5421. **PLAN OF THE TOWNS OF WINDSOR, WALKERVILLE AND SANDWICH AND THEIR VICINITY INCLUDING A PORTION OF CITY OF DETROIT, U.S.A.** George McPhillips, of Windsor, Ont., 14th June, 1890.
5422. **THREE NOTABLE STORIES.** Love and Peril, by the Marquis of Lorne; To be, or not to be, by Mrs. Alexander, and The Melancholy Hussar, by Thomas Hardy. William Bryce, of Toronto, Ont., 16th June, 1890.

5423. POEMS, by Sadie O. Prince, (Mrs. S. O. Davis). Sadie O. Davis, of Springfield N.S., 16th June, 1890.
5424. CAMPBELL'S COMMERCIAL LAW FOR BUSINESS AND COMMERCIAL SCHOOLS. Firmin Campbell, of Sherbrooke, Que., 18th June, 1890.
5425. FORGING THE FETTERS, by Mrs. Alexander. William Bryce, of Toronto, Ont., 19th June, 1890.
5426. NEW WORLD UNIFORM COLLECTING CO., AND PRIVATE DETECTIVE BUREAU, (Circular). Thurston & Co., of Montreal, Que., 20th June, 1890.
5427. A SCARLET SIN, by Florence Marryat. John Lovell & Son, of Montreal, Que., 21st June, 1890.
5428. THE MYSTERY OF MRS. BLENCARRON, by Mrs. Oliphant. William Bryce, of Toronto, Ont., 21st June, 1890.
5429. LUNENBURG, or THE OLD EASTERN DISTRICT. Jacob Farnand Pringle, of Cornwall, Ont., 23rd June, 1890.
5430. KEY TO THE RATING BOOK OF THE LEGAL AND COMMERCIAL EXCHANGE OF CANADA. Richard Lee Barwick, of Toronto, Ont., 23rd June, 1890.
5431. O, FAITHFUL HEART. Words by Robert R. Manners. Music by Frederic Boscovitz.
5432. SAY THAT I LOVE ALWAYS. Song. Words by S. J. Adair Fitz-Gerald. Music by Wm. M. Hutchison.
5433. NIGHT AND MORN. Song. Words and Music by Violet Melton. A. & S. Nordheimer, of Toronto, Ont., 25th June, 1890.
5434. ILLUMINATED GEOGRAPHICAL DIAGRAM OF THE EARTH ADAPTED FOR ILLUSTRATING ITS MOVEMENTS, ETC. John F. Briggs, of Toronto, Ont., 25th June, 1890.
5435. ORANGE AND BLUE AND JOSHUAS ORANGE HEROES. Arranged by H. L. Clarke.
5436. 12TH JULY PARADE AND ORANGE MARCH. Arranged by H. L. Clarke.
5437. FERMANAGH BOYS. Arranged by H. L. Clarke.
5438. CANADIAN MEDLEY MARCH. Arranged by T. Baugh. Whaley, Royce & Co., of Toronto, Ont., 26th June, 1890.
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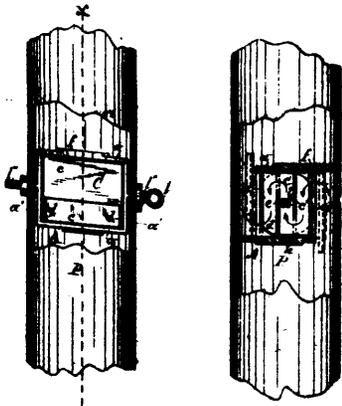
THE
CANADIAN PATENT OFFICE RECORD

ILLUSTRATIONS.

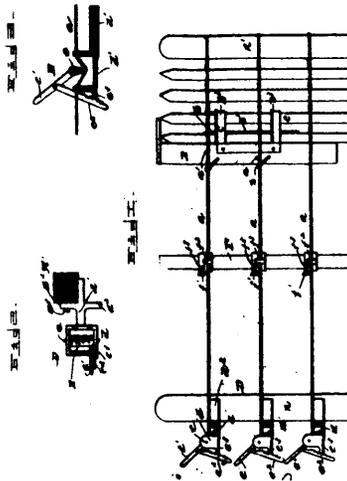
Vol. XVIII.

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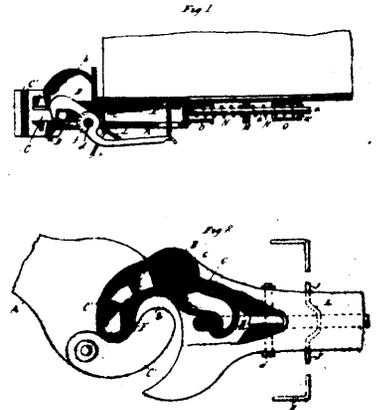
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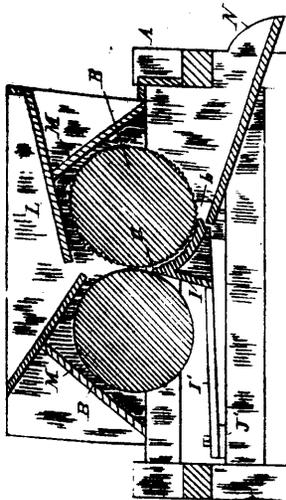
34444 Humphry's Stove Pipe Damper.



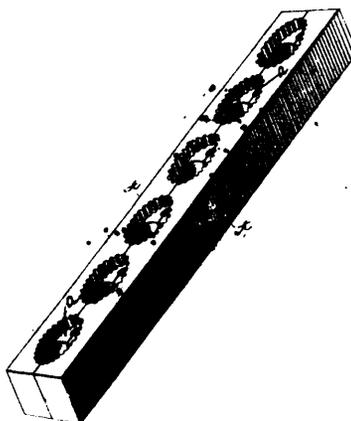
34445 Kramer's Fence Machine.



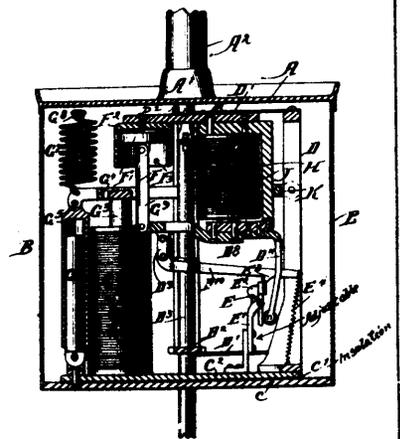
34446 Brown's Car Coupling.



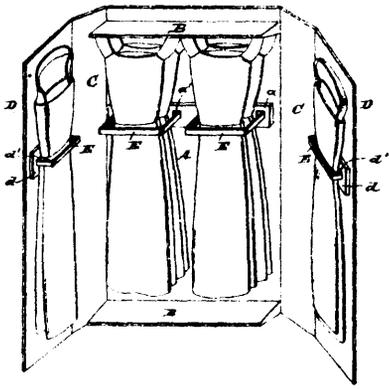
34447 Watrou's Machine for Breaking up Splices.



34448 Ball's Candy Mold.



34449 Sperry's Arc Lamp.



34450 Huewe's Neck Tie Holder.

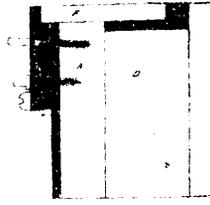


Fig. 1

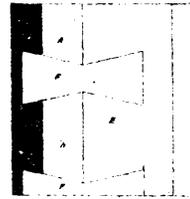
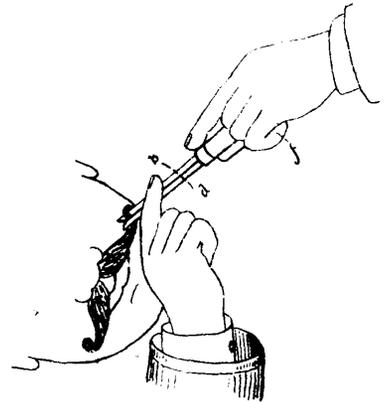


Fig. 2.

34451 Rich's Pin Block in Piano Fortes.



34452 Bagshaw's Curling Tongs.

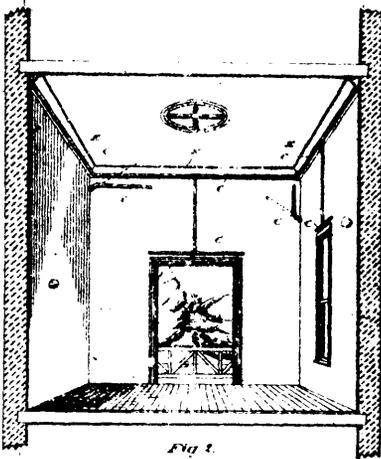
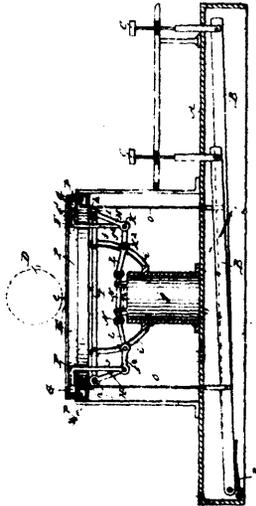


Fig. 1.

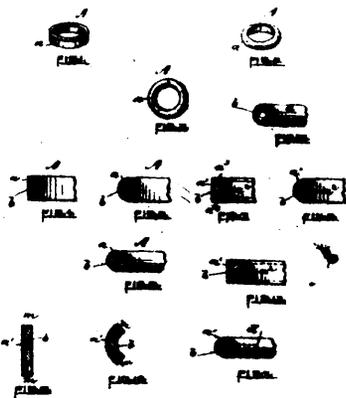
34453 Jones & Dickson's System of Fire Protection.



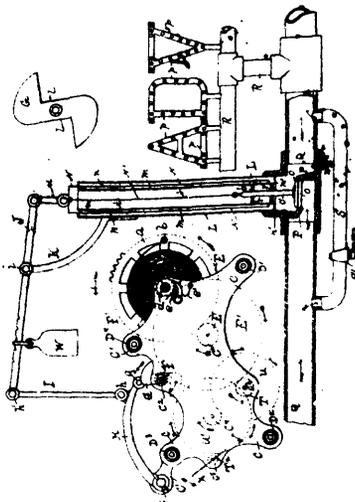
34454 Felbel & Steiger's Type Writing Machine.



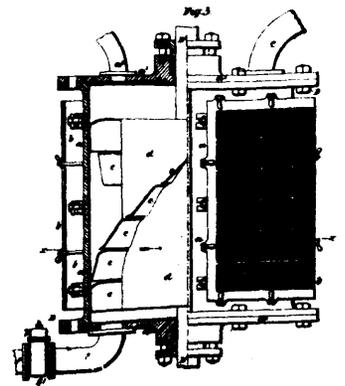
34455 Stewart's Bow Facing Oar.



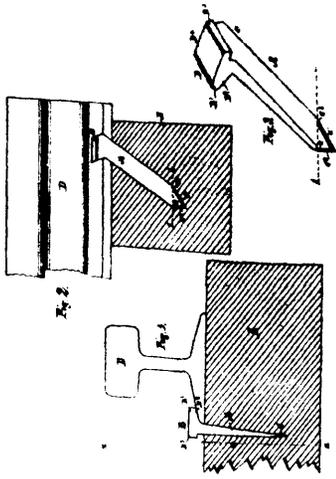
34456 Burdon's Chain Link, &c.



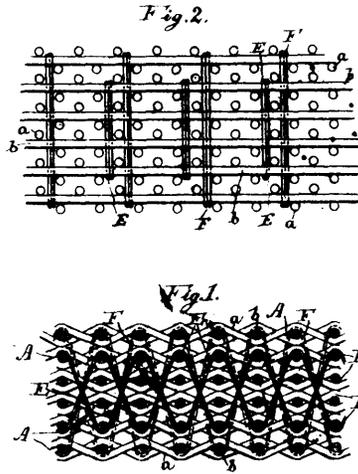
34457 Mitchell's Flash Light Advertising Sign.



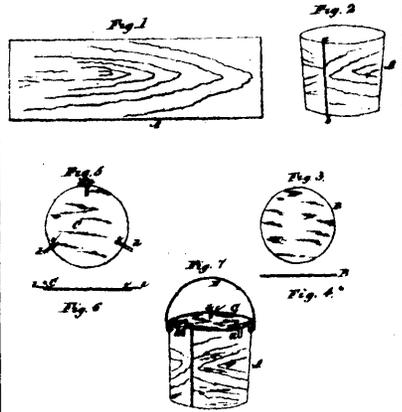
34458 Clark's Treatment of Sewage, etc.



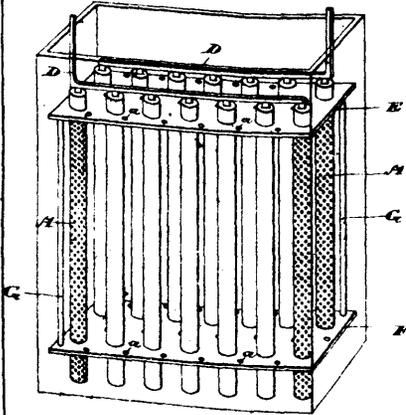
34460 Churchward's Railway Spikes.



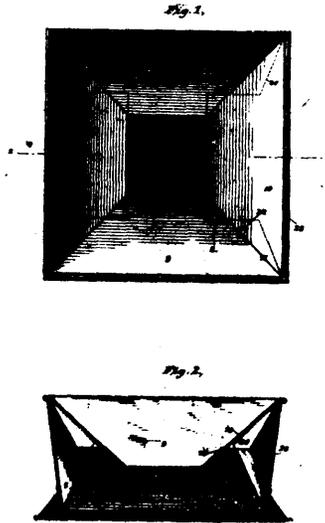
34461 Maddox's Fabric for Machine Belting, etc



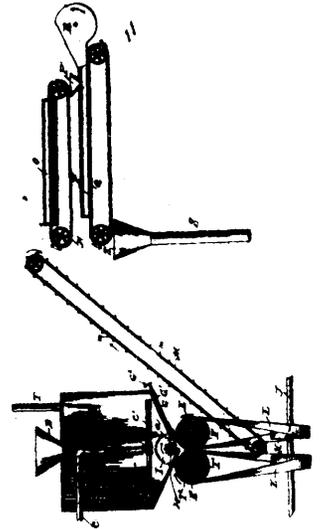
34462 Murphy's Oyster Pall.



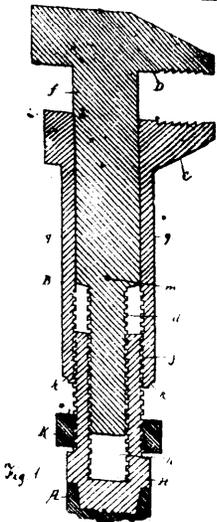
34463 Woodward's Secondary Battery.



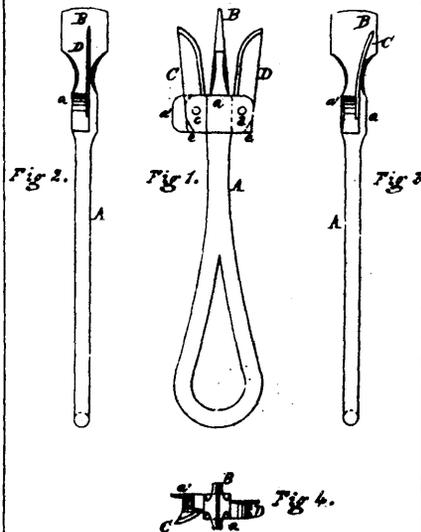
34464 Parsons' Cuspidor.



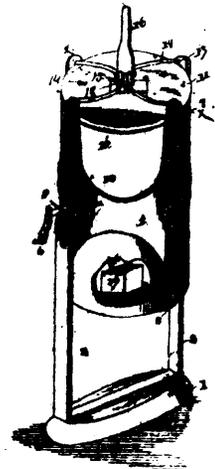
34465 Currie's Hominy or Corn Flake Maker.



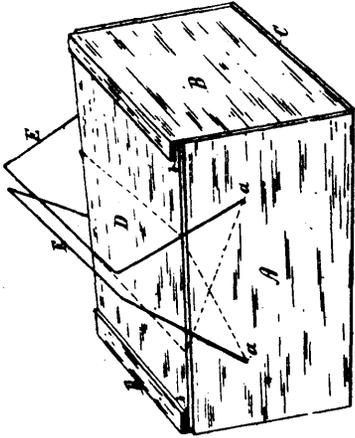
34466 Bornstein's Wrench



34467 Hunter's Can Opener.

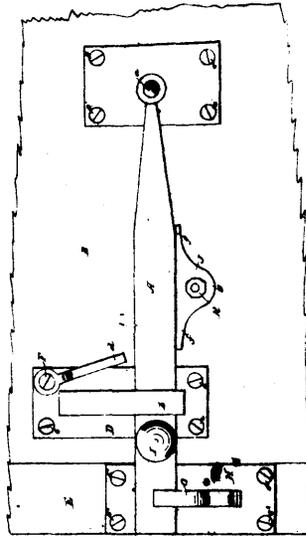


34468 Hovey & Drake's Churn.



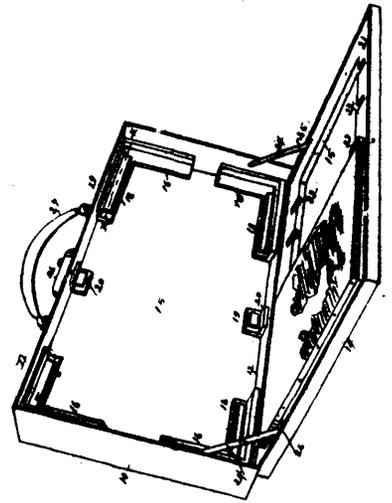
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Wheat's Fruit Box.



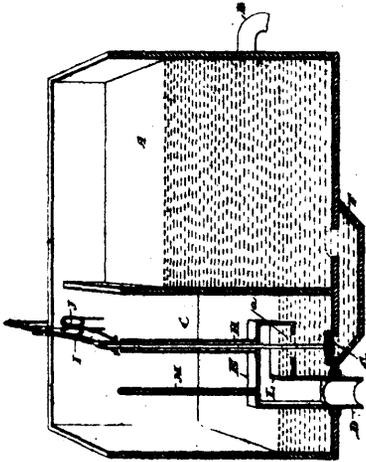
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Bronner Clanche de Porte.



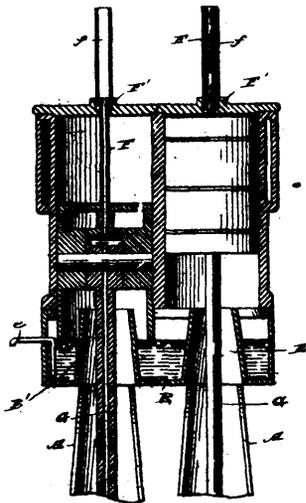
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La Bruce's Artists' Portfolio.



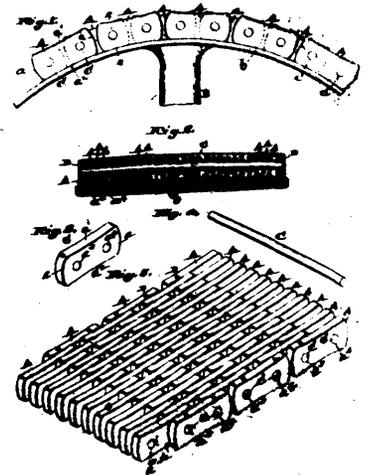
34473

Galbraith's Flushing Tank.



34474

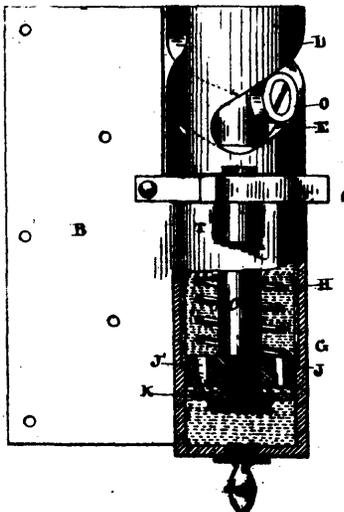
Mumford's Steam Engine.



34475

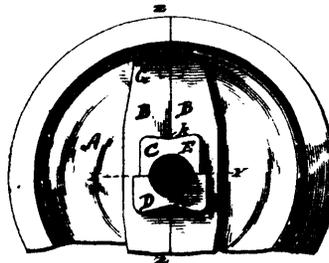
Shults's Link Driving Belt.

Fig. 8



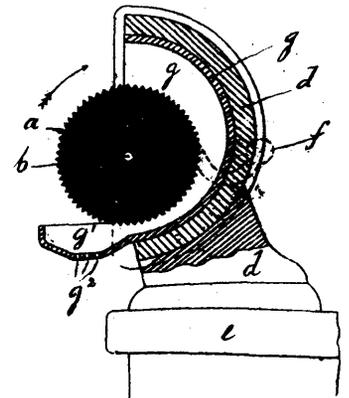
34476

Morris' Spring Hinge and Door Check.



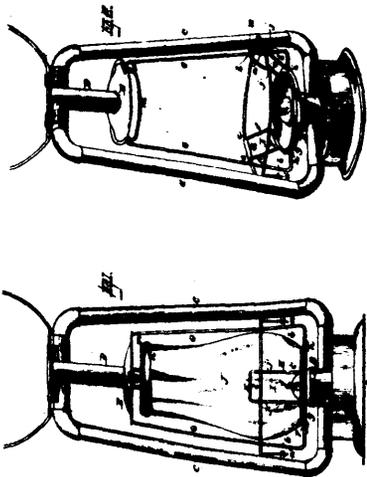
34478

Michael's Pulley.

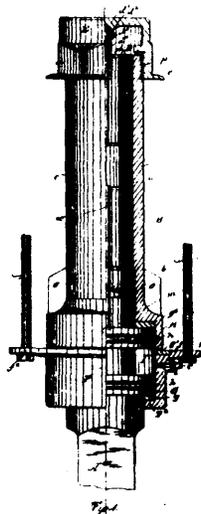


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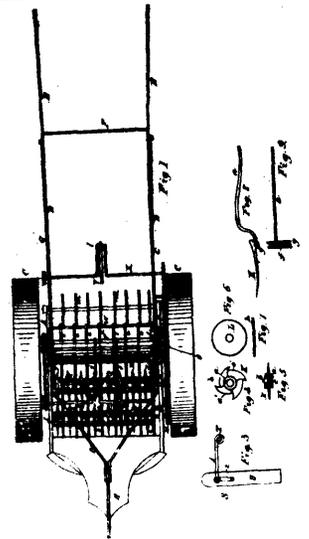
Chambers' Lemon Squeezer.



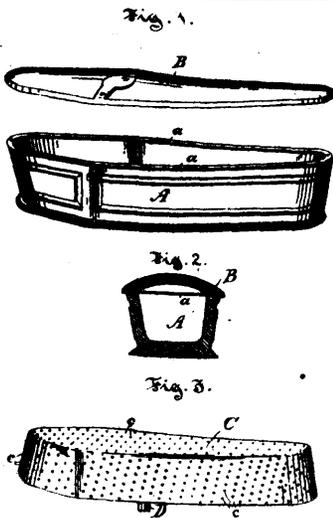
34480 Baron's Tubular Lantern.



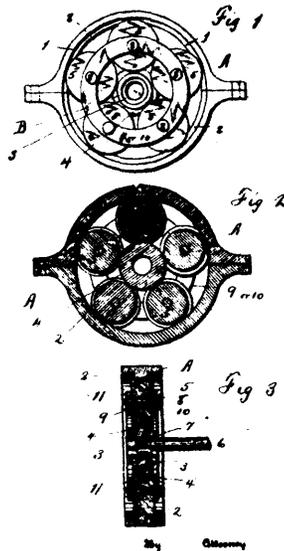
34481 Dansereau's Journal for Vehicles.



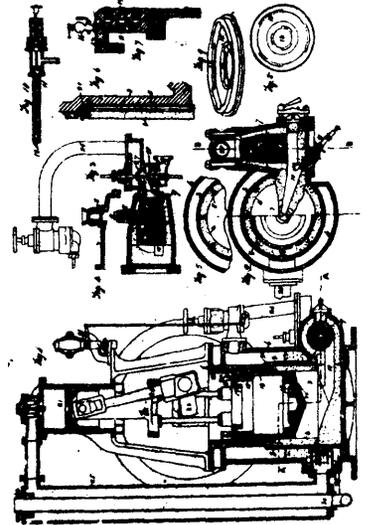
34482 Binkley's Potato Digger.



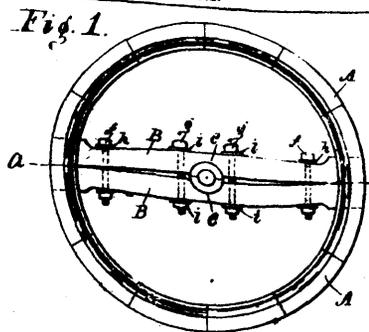
34483 Dupont's Method of Making Burial Caskets.



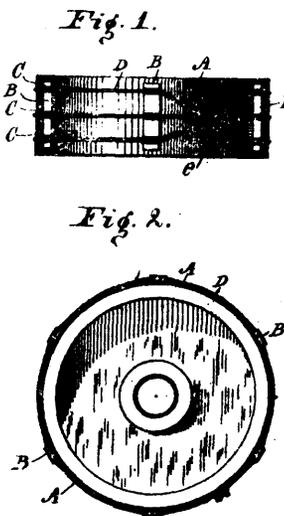
34484 Andrews' Journal Bearing



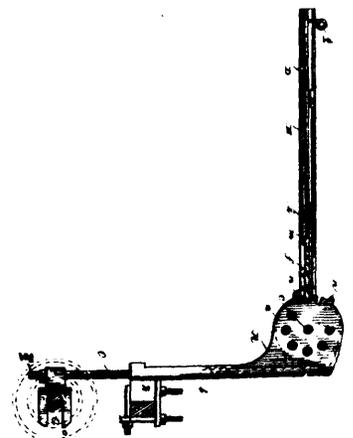
34487 Hargreaves' Thermo-Motor.



34488 Reeves' Split Pulley.



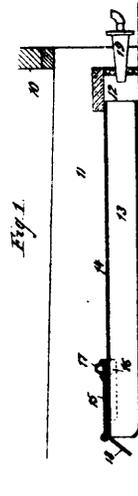
34489 Reeves' Covering for Pulleys.



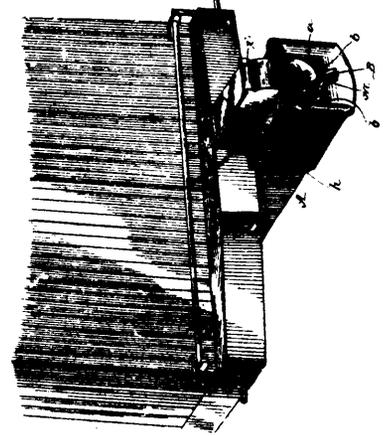
34490 Smith's Horse Checking Device.



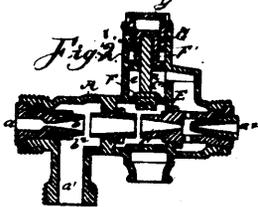
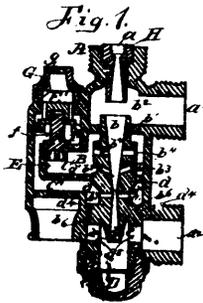
34491 Northey's Low Water Indicator.



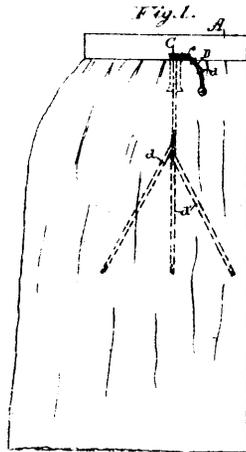
34492 Gurnee's Drying Attachment for Brick Kilns.



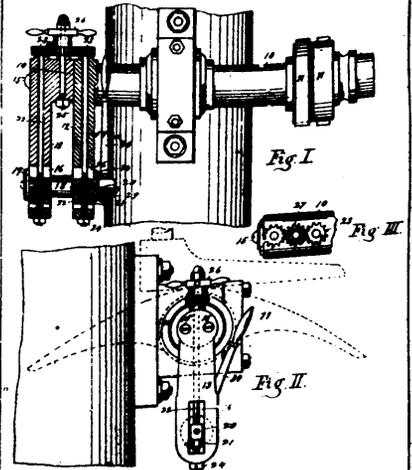
34493 Francisco's Car Coupling.



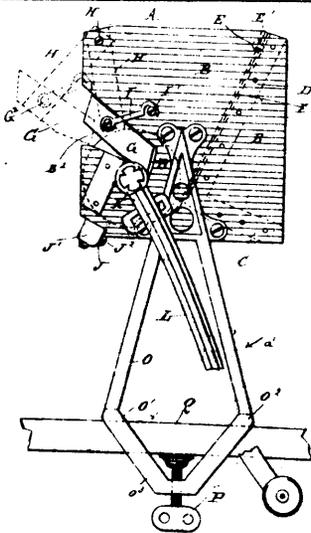
34494 Lambert's Steam Injector.



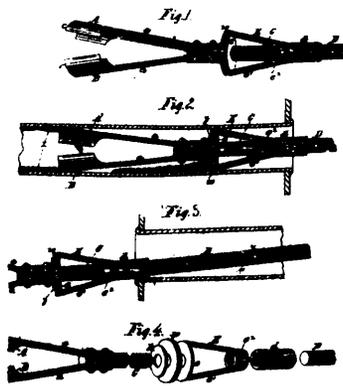
34495 Way's Dress Skirt Elevator.



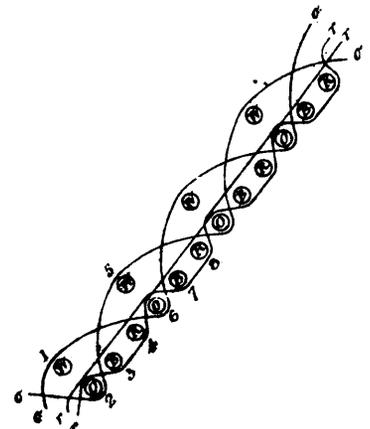
34496 Harrison's Cut-off Valve Gear.



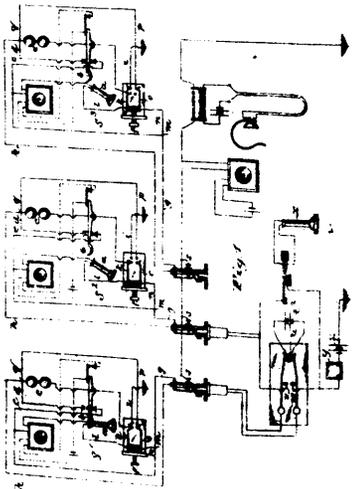
34497 Melendy's Dough Kneading Machine



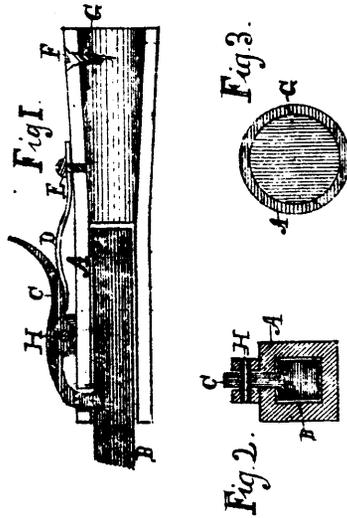
34498 Badepinner's Flue Scraper.



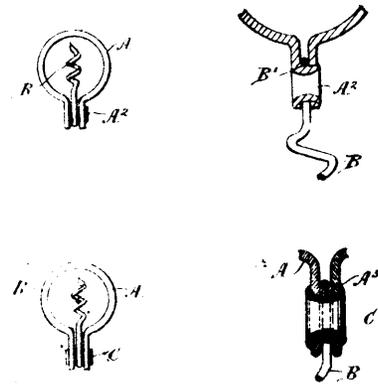
34499 Cooke & Brooke's Carpet Fabric.



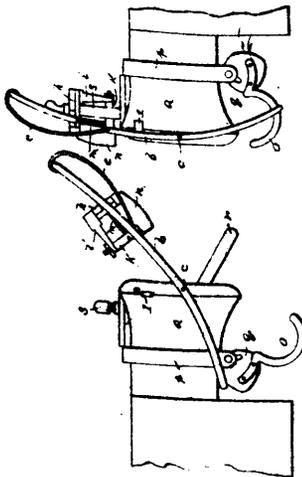
34500 Scribner's Telephone Exchange System.



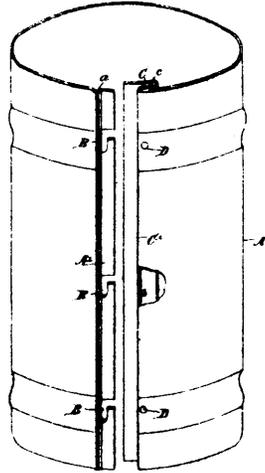
34501 Somerville's Socket for Tool Handles.



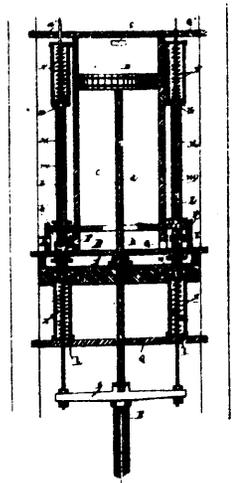
34502 Williamson's Cork Screw.



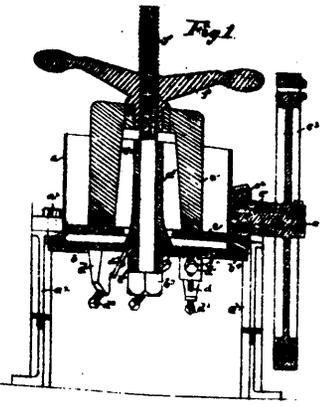
34503 McDougald's Car Coupling.



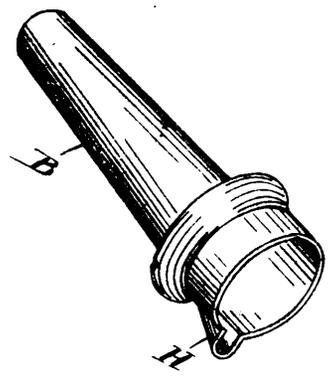
34504 Davidson's Manufacture of Stove Pipes.



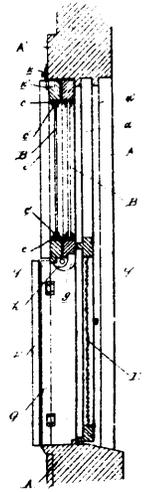
34505 Beatty's Steam Motor.



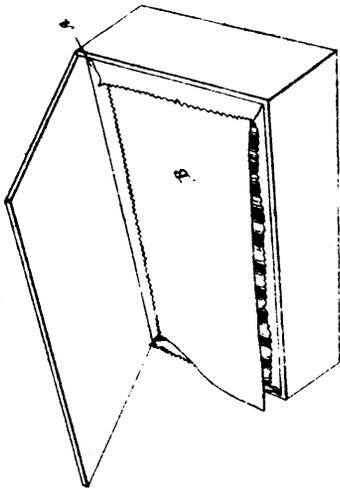
34506 Mann & Farrington's Machine for Grinding Bones.



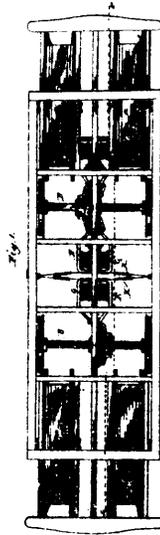
34508 Algoe & Turner's Waggon Skein.



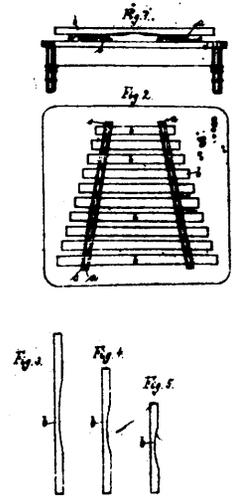
34509 Clark's Window.



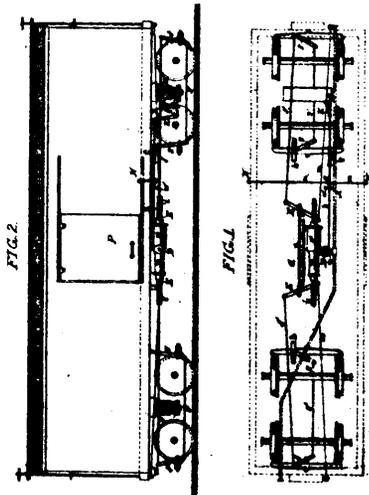
34511 Beck's Cigar Box.



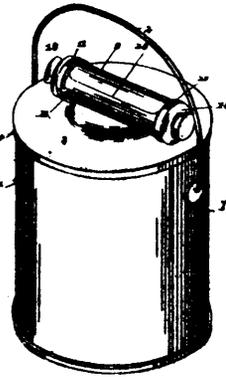
34512 Salisbury's Electric Motor.



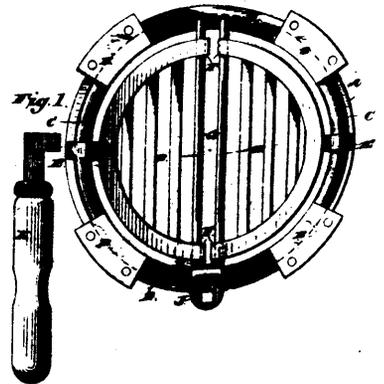
34513 Handel's Lithophone.



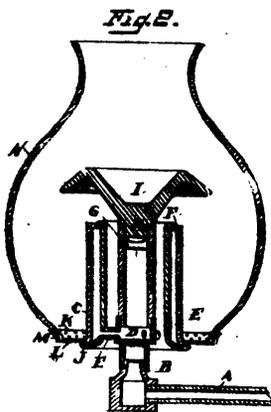
34514 Longridge's Braking Mechanism for Railway Cars.



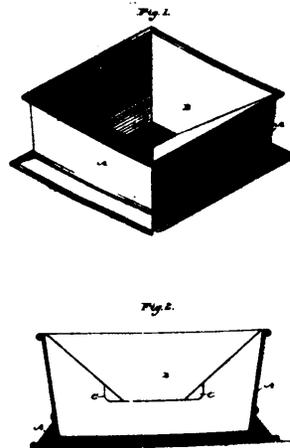
34515 Shepard's Stop Jar, etc.



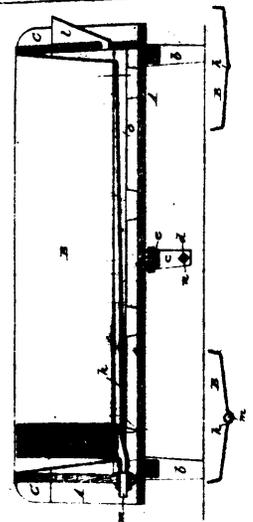
34516 Goodall's Grate



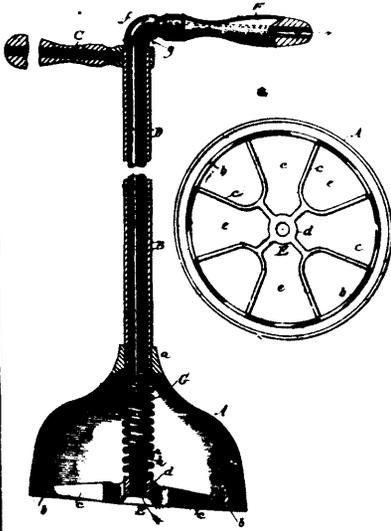
34517 Morey's Gas Burner.



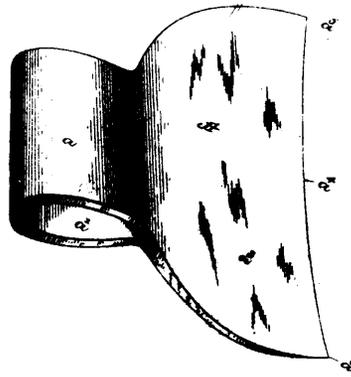
34518 Parson's Cuspidor.



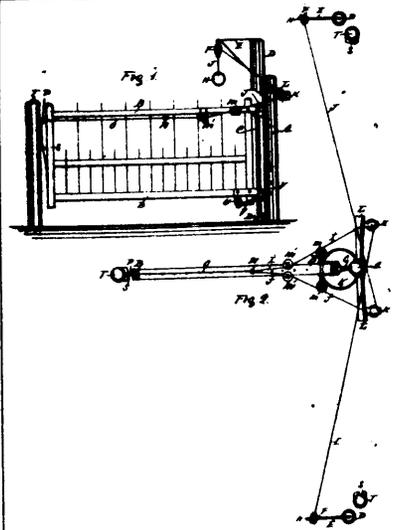
34519 Curtis' Milk Vpt.



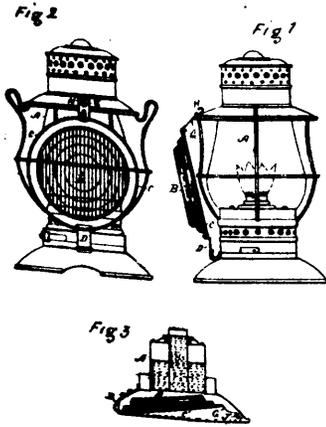
34520 Woolridge's Clothes Pound.



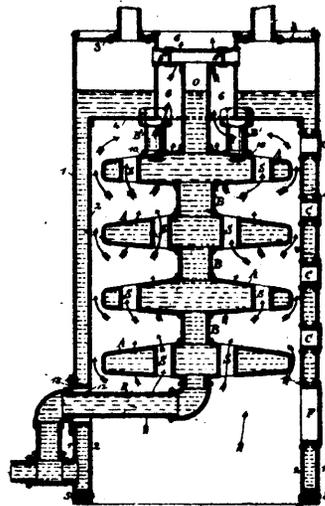
34521 Daigneau's Bark Cutter.



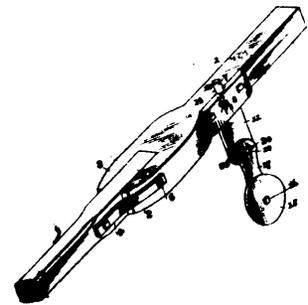
34522 Strohm's Gate.



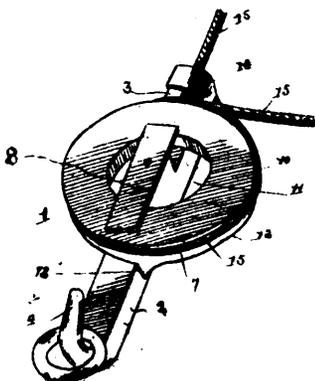
34523 France & Yelton's Lantern.



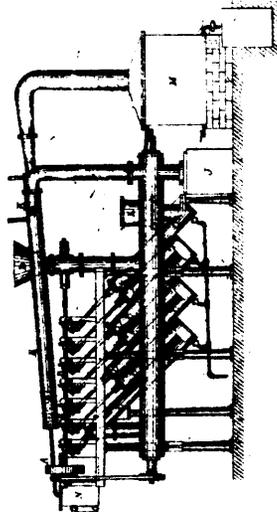
34524 Emery's Steam Boiler.



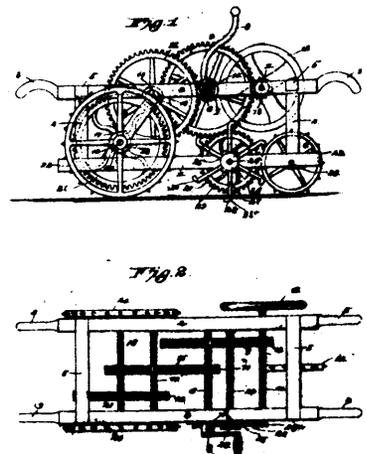
34525 Speer's Tongue Support.



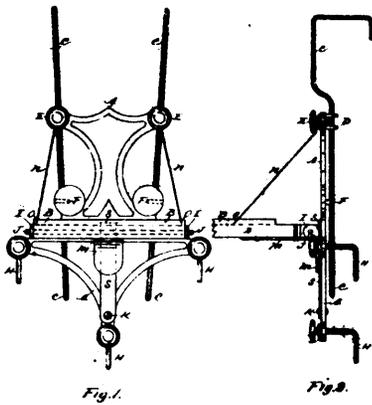
34526 Harvey's Draft Hook.



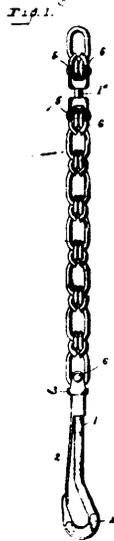
34527 Dombain & Trumper's Apparatus for Extracting Fatty and other Matters. etc.



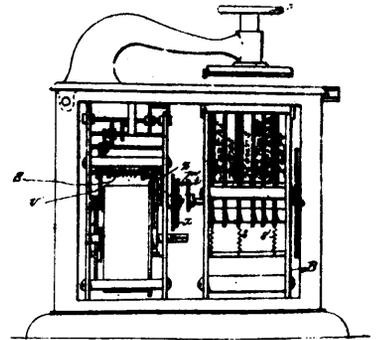
34528 Williamson's Machine for Cutting Ice.



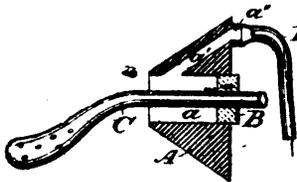
34530 Dooley's Lamp Bracket.



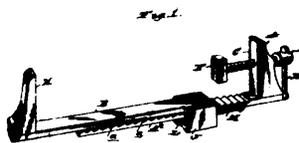
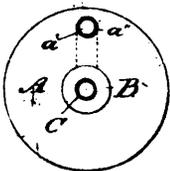
34531 Breul's Snap Hook.



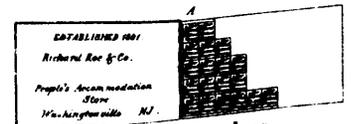
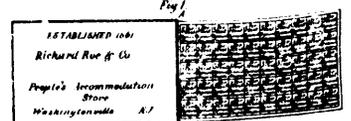
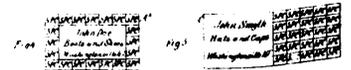
34532 Stahlberg's Time and Dating Stamp.



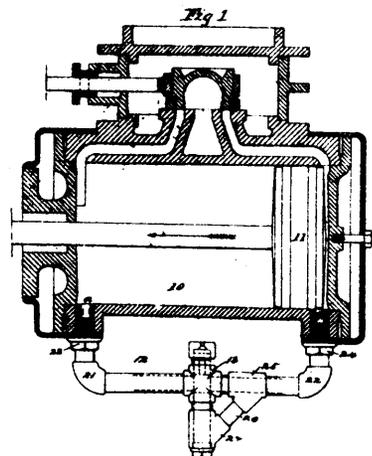
34533 Kyle's Vaginal Irrigator.



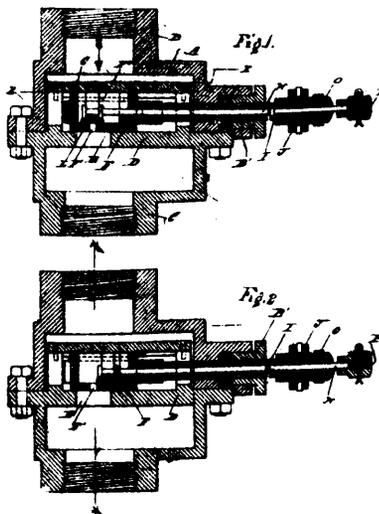
34534 Cone's Wood Working Clamp.



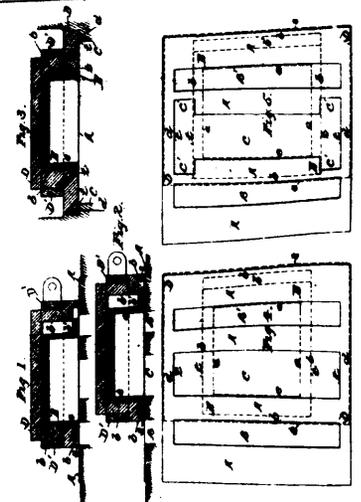
34535 Slocum's Advertising and Discount Coupon Book.



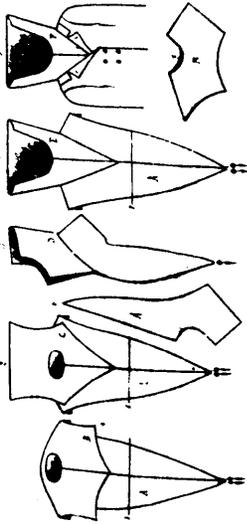
34536 Leslie's Equalizer.



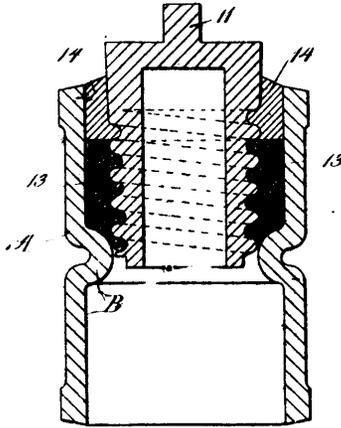
34537 Leslie's Throttle Valve.



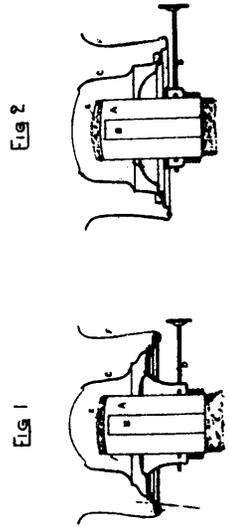
34538 Carley's Slide Valve.



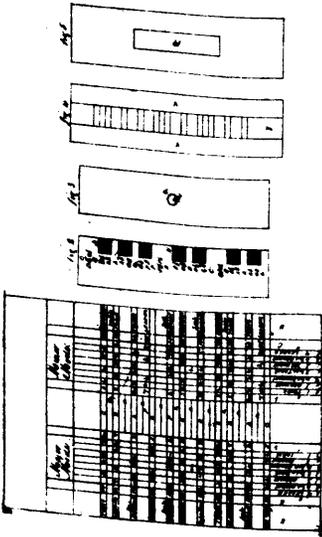
34539 Body's Col en Fourrure.



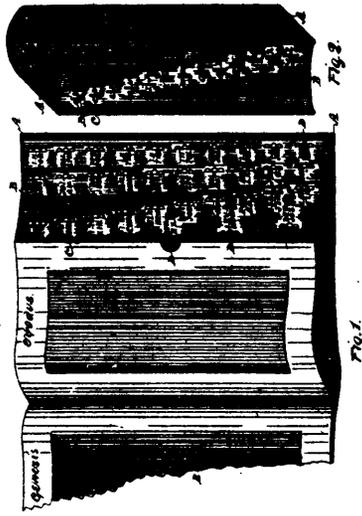
34540 Rossman's Plug for Pipes.



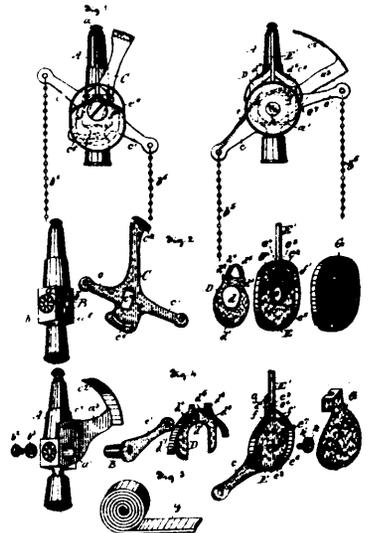
34541 Norgate & Milne's Lamp Burner.



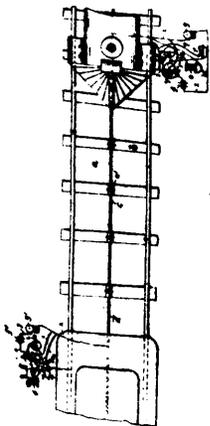
34542 Bagnley's Machine for Teaching Music.



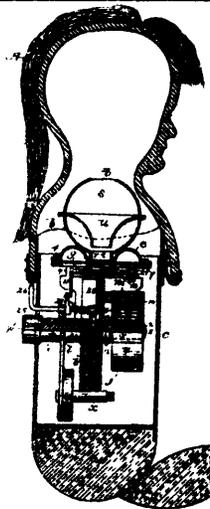
34543 Laing's Marginal Index.



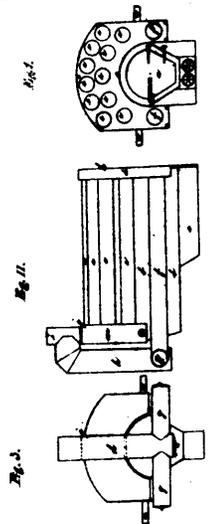
34544 Farrel's Lighting Device, etc.



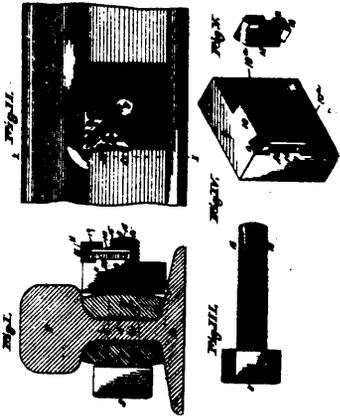
34546 Walter's Electric Railway Signal.



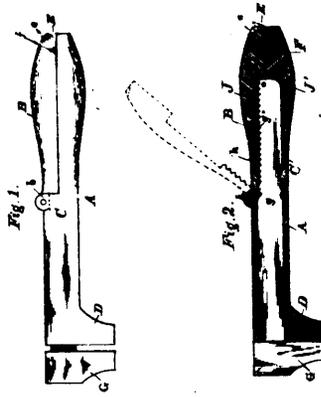
34547 Edison's Phonograph Toy.



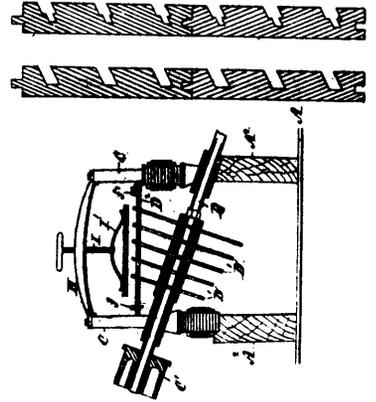
34548 Dobbin's Furnace or Heater.



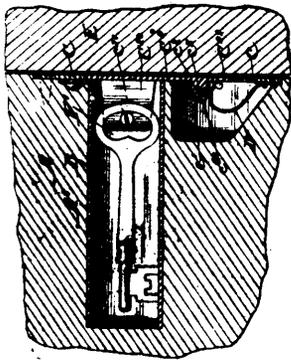
34549 Conway's Nut Lock



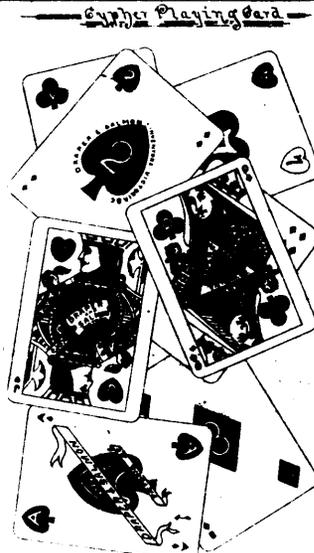
34550 Meier's Nut Wrench.



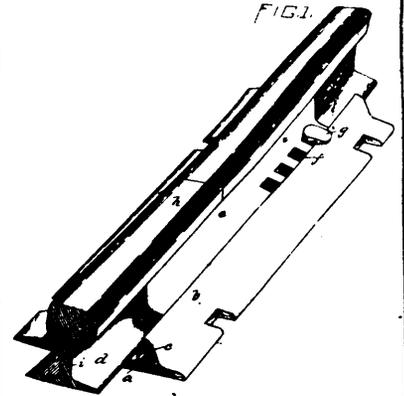
34551 Braithwaite's Wood-working Machine.



34552 Jeffery's Key Receptacle.



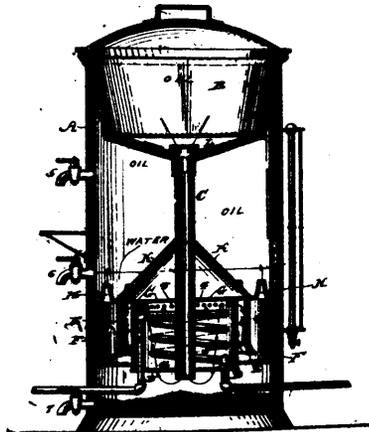
34553 Draper & Salmon's Playing Cards



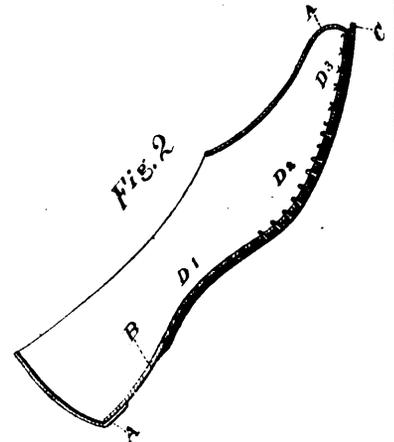
34554 Moody's Railway Rail Joint.



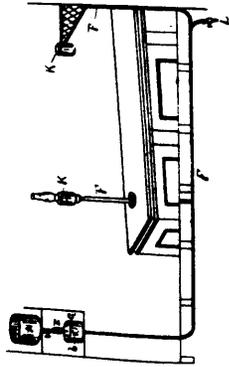
34555 Bouton's Mode of Making Sectional Chills.



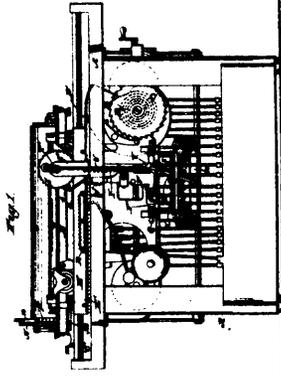
34556 Dorn & Noppel's Apparatus for Purifying and Refining Oil.



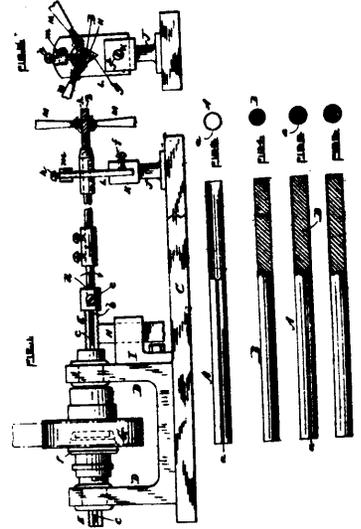
34557 Migner's Rivet & Couture Metallique.



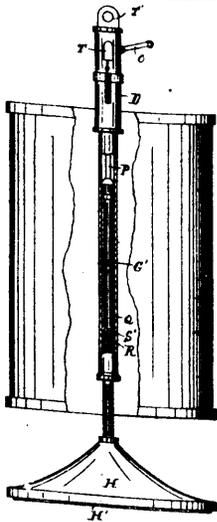
34558 Nolan & Anderson's Apparatus for Distributing Lighting Fluids to Lamps.



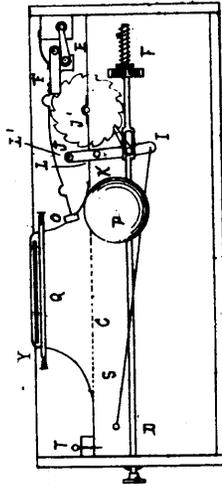
34559 Van Fleet & Graff's Type Writer, &c.



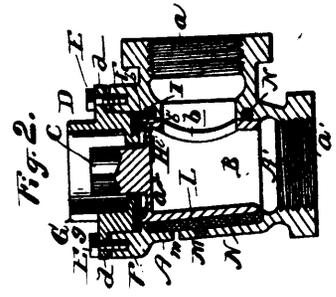
34560 Smith's Seamless Gold Plated Wire.



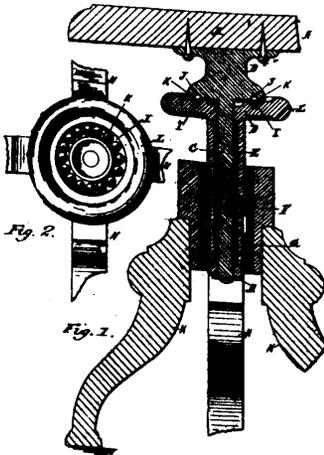
34561 Ludlow's Dumping Bucket.



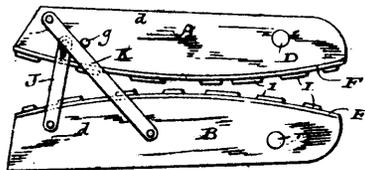
34562 Ingalls' Money Drawer, &c.



34564 Weber's Valve.



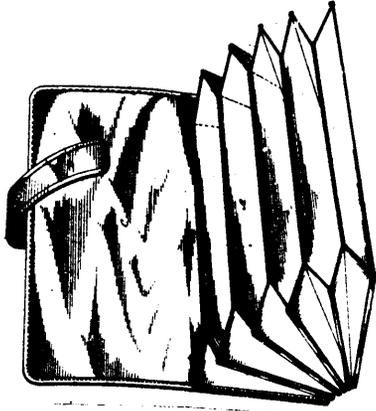
34565 Purdy's Rotary Chair.



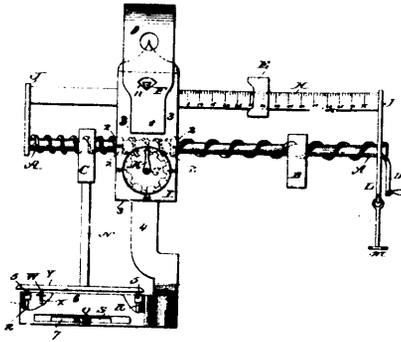
34566 Bishop's Device for Printing Signs.



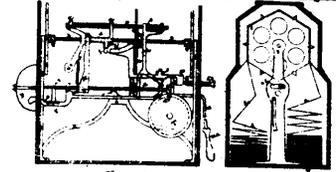
34567 Matchett's Crimped Shoe Pack



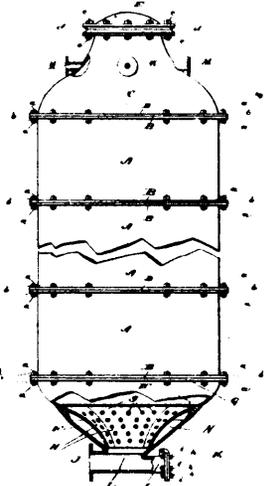
34568 Weissbrod's Pocket or Note Book



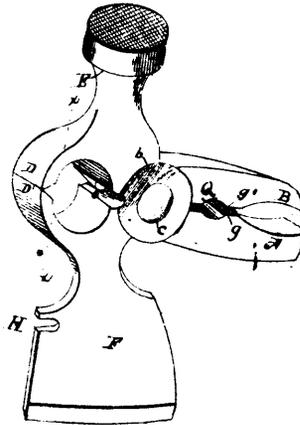
34569 Bright's Scale.



34570 Soly's Indicateur de Station.



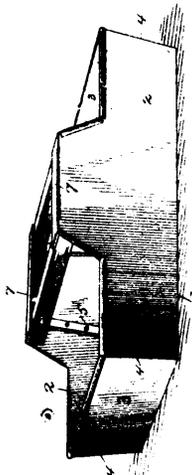
34571 Keys' Paper Pulp Digester



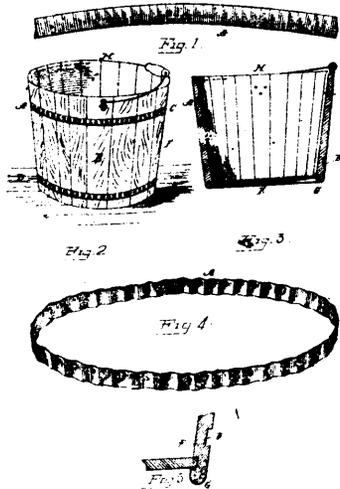
34572 Frömming's Combination Tool



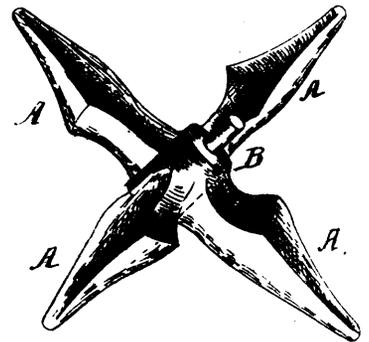
34574 Darragh's Oil Filter.



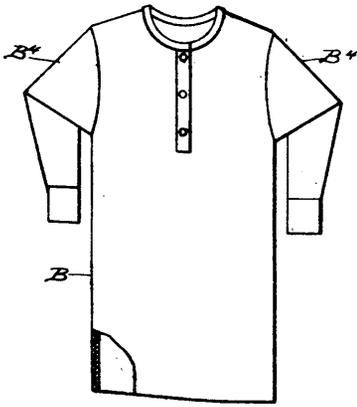
34575 Dearth's Buggy Bed.



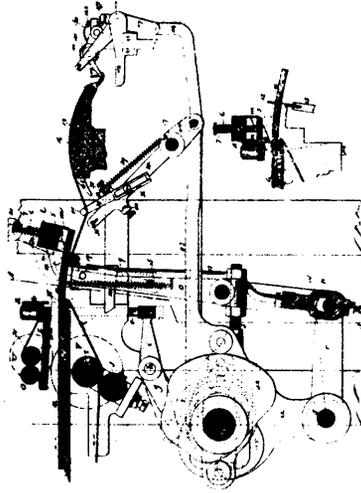
34576 Thornton's Pall, etc.



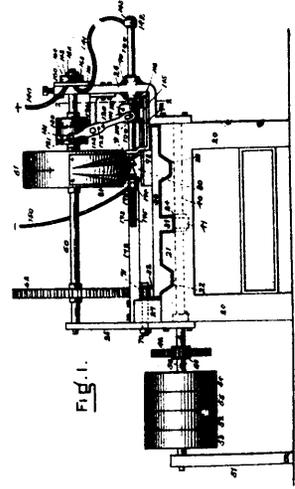
34577 Vitzelgesang's Screw Propeller.



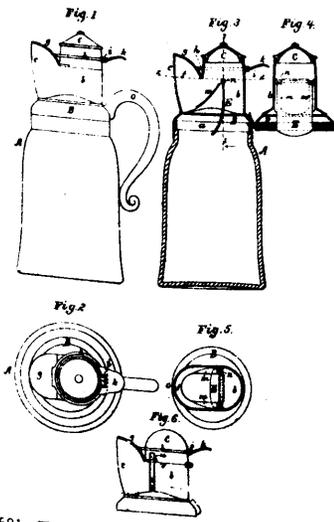
34578 Harder's Undergarment.



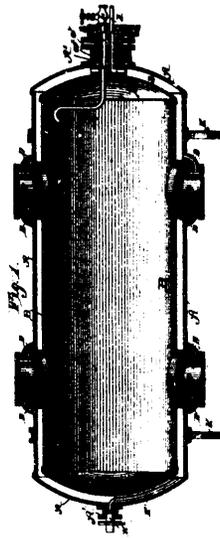
34579 Ludington's Cigarette Machine.



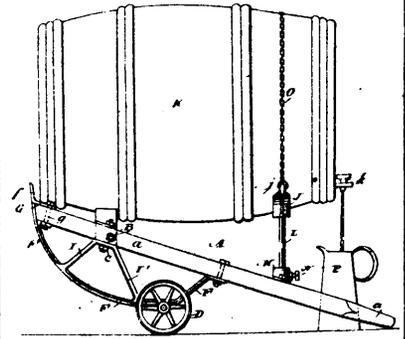
34580 Burton's Process of Making Roll Forgings.



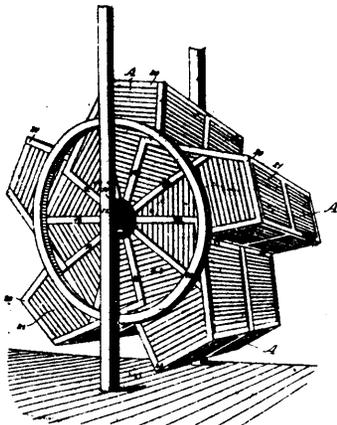
34581 Hazelton's Vessel for Measuring Sugar, etc.



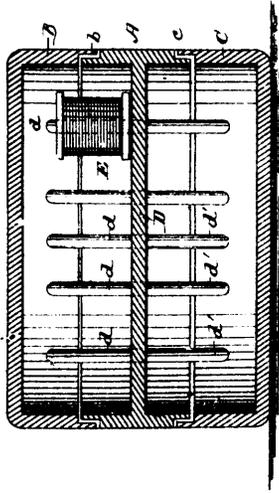
34582 Brungger's Process of Lining Boilers, &c.



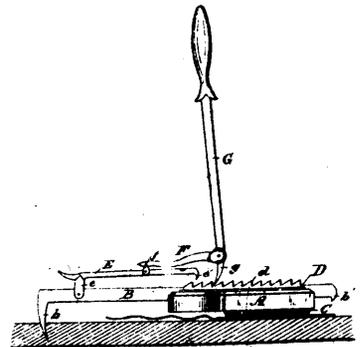
34583 Stansbury & Hyatt's Barrel Truck, &c.



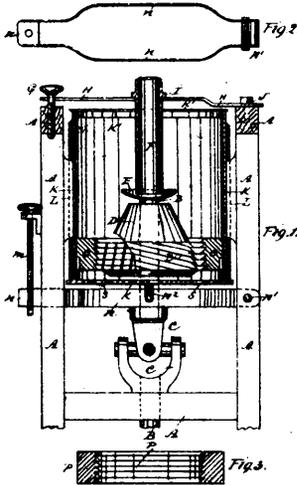
34584 Bowman's Carpet Cleaning Machine.



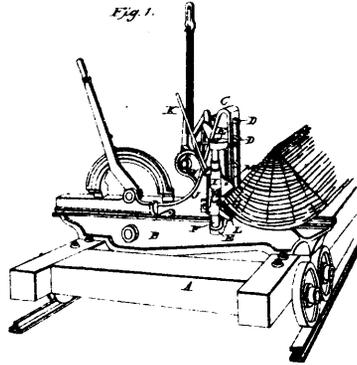
34585 Hutchinson's Thread Box.



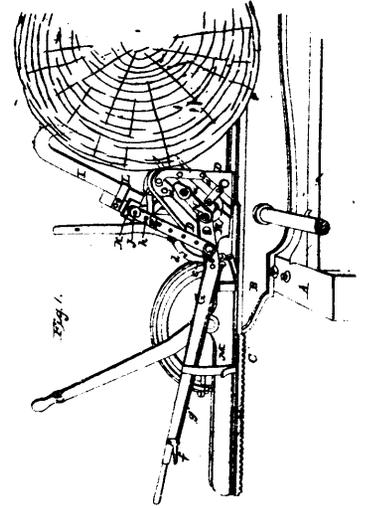
34587 Megg's Carpet Stretcher.



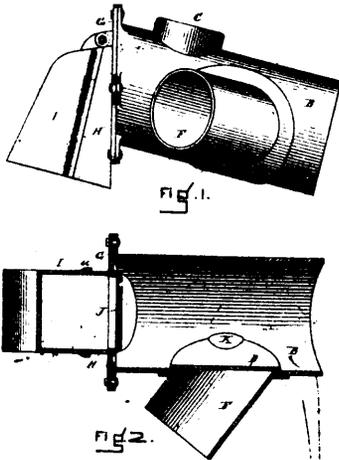
34588 St. Denis' Wheat Breaking Machine.



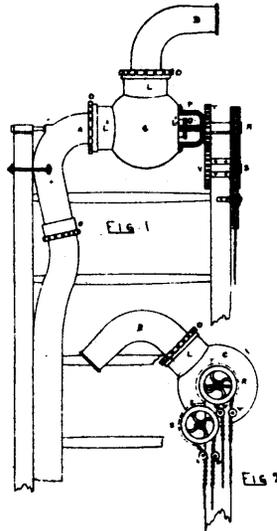
34589 Hinkley's Saw Mill Dog.



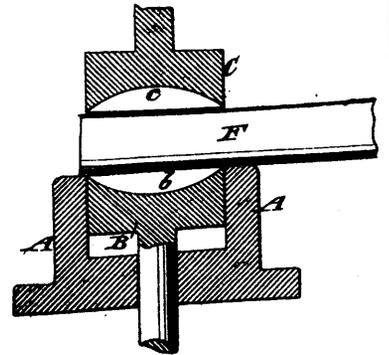
34590 Hinkley's Saw Mill Dog.



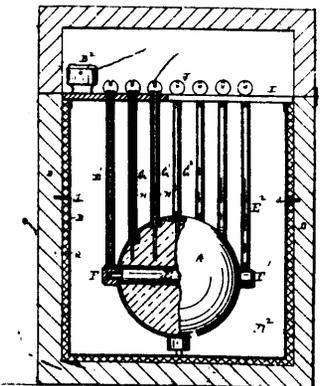
34592 Higgins' Sewer Trap.



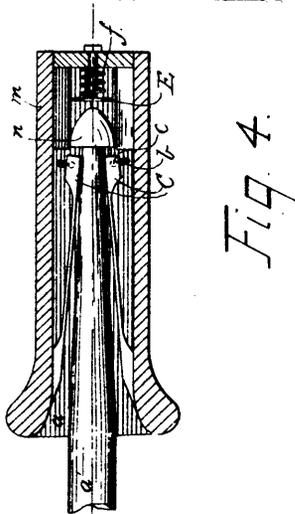
34593 Menaugh's Hose Nozzle.



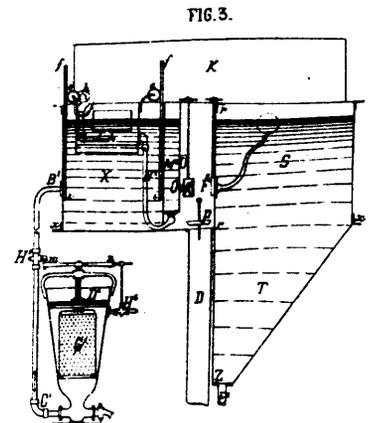
34594 Brown's Manufacture of Soap.



34595 Hicks' Therapeutic Terra Poise.



34586 Farrar's Car Coupling.



34597 Gallet's Decanting of Liquids.