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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. 38,025. Shaft and Journal Boxes or Bearings. (*Boîte a graisse ou coussinet de tourillon.*)

Amos Clinton Stilson, Bradford, Pennsylvania, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. In a shaft bearing or journal box, the combination of a box having teeth or cogs around its edges, the rollers having teeth upon their outer ends, and the adjusting rings having an opening larger than the shaft or journal, and having teeth meshing with the teeth on the ends of the rollers. 2nd. In a shaft bearing or journal box, the combination of a box having a recess and teeth arranged upon the outer ends, rollers fitting in said recess and having reduced journals provided with teeth at each end, and the adjusting rings having teeth which mesh with the teeth upon the ends of the rollers.

No. 38,026. Electric Battery. (*Batterie électrique.*)

Walter Steadman Richards, Natick, and George Barker James, both of Boston, Massachusetts, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. In a primary electric battery a negative and a positive element disposed in an excitant, said positive element being formed from a negative metal, substantially as described. 2nd. In a battery of the character described, a negative element and two positive elements disposed in an excitant, said positive elements being connected in multiple, substantially as described. 3rd. In a battery of the character described, a negative element, and two positive elements connected in multiple, and immersed in an excitant, one of said positive elements comprising a negative metal, substantially as described. 4th. In an electric battery, a negative element and a positive element immersed in a common excitant, a second positive element in a distinct excitant, said positive elements being connected in multiple, substantially as described. 5th. In an electric battery, a containing jar and a porous cup therein, in combination with an excitant solution surrounding said cup; a negative and a positive element in said solution; an excitant in said cup, and a positive element in said excitant, said positive elements being connected in multiple. 6th. A primary electric battery comprising a containing jar, an excitant solution therein; a zinc pole and an iron pole in said solution; an excitant in said cup, and a carbon pole in said cup connected in multiple with said iron pole, substantially as described. 7th. A primary electric battery comprising a negative pole; a positive pole consisting of a negative metal, and an excitant comprising a solution of potash surrounding said poles, substantially as described. 8th. A primary electric battery comprising a jar containing a solution of potash, a zinc plate and an iron plate immersed therein; a porous cup in said jar; a solution of bi-chromate of soda or equivalent excitant in said cup, and a carbon plate in said cup connected in multiple with said iron plate, substantially as specified. 9th. In a primary electric battery a negative electrode and two positive electrodes of different substances immersed in an excitant. 10th. In a primary electric battery, a negative electrode and two positive electrodes immersed in an excitant, said positive electrodes being connected with different circuits to which the negative electrode is common.

No. 38,027. Spoon. (*Cuiller.*)

Geo. A. Gray, Montreal, Quebec, Canada, 2nd January, 1892; 5 years.

Claim.—1st. A spoon constructed with two lips opposite each other, having a handle at one side thereof, placed at or about midway between said lips, substantially as described. 2nd. As a new article of manufacture, a spoon having the lips A, A^1, opposite each other, and a handle B, placed at or about midway between said lips, substantially as and for the purpose set forth.

No. 38,028. Fastener for Collars. (*Attache de col.*)

Frederick H. Kiekenapp, Faribault, Minnesota, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. The combination, in a device of the class described, of parts 4 and 5, having straight and slotted lugs 9 and 10 respectively, wide notches provided between the parts of said lugs, and adapted to receive the hame-strap, a projection 11 on the part 5, adapted to engage the back of the part 4, and a stop whereby the lugs 9 are prevented from slipping out of engagement with the lugs 10 after being secured in place, substantially as set forth. 2nd. A collar fastener, consisting in the parts 4 and 5, having straight and slotted lugs 9 and 10 arranged with notches between them, a projection 11 on the part 5 adapted to engage the part 4, and one of said parts having the loop or eye provided with the inclined slot 15, through which to insert the martingale, substantially as described. 3rd. The combination, in a device of the class described, with the parts 4 and 5, having straight and slotted lugs 9 and 10 arranged with notches between them, of a projection 11 on the part 5, adapted to engage a projection on the part 4, and a loop or eye provided on one of said parts, and having the inclined slots 15 through which to insert the martingale, as described.

No. 38,029. Washing Machine. (*Machine à blanchir.*)

William Champion, St. Marys, Ontario, Canada, 2nd January, 1892; 5 years.

Claim.—1st. The combination of a wooden stool suspended in a wooden tub, and receiving an oscillating circular motion by means of bevel gear and pinion wheel with handle, substantially as and for the purpose set forth. 2nd. The combination of a wooden stool suspended in a wooden tub, with a grooved or slotted iron shaft fitting loosely in a bevel pinion, and thereby allowing the stool to accommodate itself to the quantity of clothes in the tub, substantially as and for the purpose set forth. 3rd. The combination of stool with slotted or grooved iron shaft, moved by bevel gear wheel and pinion with hinged door, so that when the door is open all the machinery is removed from the entrance to the tub, substantially as and for the purpose set forth.

No. 38,030. Nut Lock. (*Arrête écrou.*)

William J. Walker, St. Louis, Missouri, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. A nut lock, consisting of a bolt and nut, and a longitudinal slot formed in said bolt; the said bolt adapted to be expanded adjacent to the nut, substantially as set forth. 2nd. A nut lock, consisting of a bolt and nut, a longitudinal slot formed in said bolt, and a slit such as 8 also formed in the bolt adjacent to the said slot, substantially as set forth. 3rd. A nut lock, consisting of a bolt having a head, a longitudinal slot formed in the screw threaded portion of said bolt, beveled surfaces such as described formed on the screw threaded ends of the bolt, and a nut adapted to be screwed on

said bolt, substantially as set forth. 4th. A nut lock, consisting of a bolt and nut, a longitudinal slot such as 7 formed in said bolt at the screw threaded end thereof, beveled faces such as 10 formed at the openings of said slot, and a slit such as 8 leading from the said slot, substantially as set forth. 5th. A nut lock, consisting of a bolt and nut, a slot formed in the screw threaded end of said bolt forming prongs 9, beveled faces such as 10 formed on the said prongs adjacent to the said slot, and a slit such as 8 formed in the said bolt adjacent to the said slot, substantially as set forth.

No. 38,031. Joint for Railway Rails.

(Joint de rail de chemin de fer.)

Joseph A. Eno, Newark, New Jersey, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. In a railway joint, fish plates provided with teeth or projections adapted to enter openings in a supporting rail chair, as described and set forth. 2nd. In a railway joint, a supporting rail chair provided with teeth or projections adapted to enter openings in fish plates, as described and set forth. 3rd. In a railway joint, the combination with the rails of fish plates provided with teeth or projections, a supporting chair extending under the ends of the rails, and provided with openings adapted to receive the teeth or projections on the fish plates, and means for securing said parts to the rails, all said parts being adapted to operate as described and set forth. 4th. In a railway joint, the combination with the rails of a supporting chair extending under the ends of the rails and provided with teeth or projections, fish plates provided with openings adapted to receive the teeth or projections on the chair, and means for securing said parts to the rails, all said parts being adapted to operate as described and set forth.

No. 38,032. Spring for Vehicles. (*Ressort pour voitures.*)

Stephen Henderson Campbell Miner, Montreal, assignee of William Atkinson, Granby, Quebec, Canada, 2nd January, 1892; 5 years.

Claim.—1st. In a vehicle spring, the knuckle pieces D, rigidly secured to the slide plates of the spring, and having the lugs, the said knuckle piece prolonged into a loop to enclose the end of the spring and to act with its stop T, the bolt G, passing through the said lugs and pivoting them to the blocks F, and the clips K, binder L, and nuts M, substantially as herein shewn and described. 2nd. The combination in a vehicle spring of the cylindrical terminals of the tension plate O, suitably secured to the spring and the bottom plate Q, said terminals being bushed substantially as shewn and described, and acting through the shackle arms with the bushing of the cylindrical terminals of the rub plates B; with the stop or protuberance T, or the lowest leaf of the spring and the looped terminal of the knuckle piece D, forming a chair rest with the said spring leaf and the rub plate, by passing across the top and down the sides of the said spring leaf and rub plates, as set forth. 3rd. In a vehicle spring, the combination with the knuckle piece D, suitably secured to the relatively adjacent parts of the vehicle, having its looped terminal N^1, to clasp the rub plate B, and the lowest leaf of the spring bearing the protuberance T, and to produce with said protuberance of the spring an effectual stop, substantially as and for the purposes set forth. 4th. The combination in a vehicle spring of the stop T, of the spring leaf, with the looped terminal N^1, of the knuckle piece, as set forth. 5th. In a vehicle spring, the combination of the loop N^1, of the knuckle piece D, with the stop T, of the lowest spring leaf, and the plate Q, as set forth. 6th. In a vehicle spring, the combination with the stop T, of the spring leaf resting upon the rub plate B, and into the loop N^1, of the knuckle piece D; of plate O, acted upon by said stop T, and loop N, through the shackle R, and prevents the body of the vehicle from shifting forward, substantially as set forth. 7th. In a vehicle spring, the combination of the loop N^1, of the knuckle piece with the stop T, the shackle N, the top plate O, and the bottom plate Q, arranged to act functionally together, as set forth. 8th. As an article of manufacture, the herein described spring leaf having the protuberance T, swedged into each of its ends, substantially as set forth. 9th. In a carriage spring, the combination of the bushing, substantially as hereinbefore shewn and described, with the cylindrical terminals of the top tension plate O, the bottom tension plate Q, and the bolt G, whereby a more delicate and exact functional action of the spring is produced as set forth.

No. 38,033. Knitted Bags and Process of Making the Same. (*Sac tricoté et procédé de fabrication.*)

Frank Clewley and Hugh McGill, both of Philadelphia, Pennsylvania, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. The method of knitting bags, consisting of simultaneously knitting two sides thereof, and interknitting their selvages and at intervals in the formation of the tube so formed transversely joining the two sides thereof by interknitting the same, and then continuing the tubular construction, substantially as described. 2nd. A tube for the formation of bags, consisting of two flat knitted sides H H, interknitted at their selvages and transversely interknitted at intervals, one with the other, and adapted to be cut at or about the transverse joints thus formed to make bags, substantially as set forth. 3rd. A tube for the formation of bags, consisting of two flat knitted sides H H, interknitted at their selvages, said two flat sides being cross seamed at intervals one with the other, and adapted to be cut at or about the said transverse seams to form bags.

No. 38,034. Bobbins or Spools for Yarn. Thread. Cord. etc. (*Bobine ou fuseau pour le fil, la corde, etc.*)

Richard Haynes, Birmingham, and John Wilcock, Manchester, England, 2nd January, 1892; 5 years.

Claim.—1st. A bobbin or spool, upon which yarn, thread, twine, or the like, is wound or held constructed in two separable parts divided transversely across the barrel or tube to provide for the material being removed therefrom or placed thereon without unwinding or rewinding. 2nd. A bobbin or spool, divided transversely across the barrel or tube, provided with a connecting joint which securely attaches the two parts together, substantially as and for the purposes described. 3rd. A bobbin or spool, transversely divided across the barrel, provided with truncated cone-shaped ends, having the apex of each at or near the centre, substantially as described. 4th. In a bobbin, divided transversely across the tube or barrel, the combination with the barrel *a*, of the joint a^1, substantially as described. 5th. The combination with the divided bobbin A, and roll or ball of material C, of the paper tube B^1, and loose flanges D, provided with central cores *d*, substantially as described. 6th. The combination with the divided bobbin A, and roll or ball of material C, and paper tube B^1, of the loose flanges D, having central cores *d*, and the spindle D^1, substantially as described.

No. 38,035. Coffin. (*Cercueil.*)

Ludwig Otto Mueller and Lambert Stader, both of Munich, Kingdom of Bavaria, Empire of Germany, 2nd January, 1892; 5 years.

Claim.—1st. A coffin composed of a skeleton consisting of frames stiffened with light, open latticework, coated with moisture-resisting and adhesion increasing solutions, and said lattice frame being the carrier or support of a skin or crust cast upon it externally, consisting of a plastic combination having the quality of setting hard in the open air, but becoming porous when subjected to the influence of air and moisture in the ground, substantially as set forth. 2nd. A coffin composed of a frame stiffened with light open lattice work, coated with a moisture-resisting substance, a skin or crust cast upon said frame, said skin cast in a mold, and having a fabric embedded therein, said skeleton and fabric impregnated with a solution adapted to increase the adhesion between the same, and the composition of which the skin is composed, substantially as set forth. 3rd. In the production of coffins, a casting composition consisting of plaster of Paris, chalk, dextrine silicate, with the addition of salts of carbonic oxide and of sulphur, substantially as set forth.

No. 38,036. Dish Washer. (*Laveuse de vaisselle.*)

Harriet Ellen Davis, Topeka, Kansas, U.S.A., 2nd January, 1892; 5 years.

Third copy of the claims in the matter of the application of Harriet Ellen Davis, dish washer.

Claim.—1st. The hereinbefore described dish washer, composed of the suds box, the perforated cylinder journalled at its ends in the said suds box, and the loose partitions of graduated sizes placed within the said cylinder to space the dishes and hold them from movement, substantially as described. 2nd. The hereinbefore specified dish washer, comprising the suds box having flat bottom and curved sides, and having the cover symmetrically curved and provided with an outer flange d^1, the perforated splasher plates F, secured to the suds box at their lower ends and embracing the lower edge of the cover between its sides and the sides of the suds box, the perforated cylinder journalled at its ends in the suds box, and the loose partitions of graduated sizes placed within the said cylinder to space the dishes and hold them from movement, one of the said partitions being a box to receive the cutlery, substantially as set forth.

No. 38,037. Can for Filling Lamps.

(Machine à emplir les bidons.)

Milton H. Garland, Chicago, Illinois, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. A sink top for a filling can, provided with a screw capped thimble opening, a thimble to which a blow-tube is adapted to be fastened, both of said thimbles extending above the surface of the sink top, and a combination supply and drain pipe ending at its upper end flush with the surface of the sink top, as and for the purpose specified. 2nd. In the filling can, the combination, with a sink top, of a tube united to it extending downwardly therefrom to the bottom of the can, having its upper end flush with the surface of the sink top and the interior of its upper end fitted to receive a detachable spout W, whereby it is adapted to act both as a supply pipe and a drain pipe, substantially as set forth.

No. 30,038. Process and Apparatus for Ageing Liquors. (*Procéde et appareil pour vieillir les liqueurs.*)

Julian A. H. Hasbrouck, Plainfield, New Jersey, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. In the treatment of liquors for the purpose of ageing them, the process herein described, the same consisting in confining the liquor to prevent the vapors from escaping, protecting the liquor against injury from chemical action, by contact with the walls of the containing vessel, by means of a layer of carbon or carbonized wood interposed between the liquor and the surface of the tank and its arms, said carbon also serving as the purifying and coloring agent, heating the confined liquor, spraying, vaporizing or otherwise finely dividing it, and subjecting the liquor so confined, heated and divided, to the action of oxygen gas, substantially as herein described. 2nd. The apparatus herein described for carrying out the above specified process, the same consisting of a wooden tank T, provided with gudgeons journalled in supports on which the tank rotates, the said tank having interior wooden arms A, A^1, and an interior pipe P, made of tin or other metal not corrodable by the liquor, the inside surface of the tank and also the arms being carbonized or charred so that the liquor cannot come in contact with the natural wood, and the pipe P, having its ends carried through and secured in apertures in the heads of the tank, and stationary tubes *t*, *t*, connected one with hot air or steam supply pipe, and the other with an exhaust pipe, and also passed through stuffing boxes in the gudgeons so that they communicate with the ends of the pipe P, substantially as herein described.

No. 38,039. Construction of the Hulls of Vessels.

(*Construction de coque de navire.*)

James Frederick Hodgetts, London, England, 2nd January, 1892; 5 years.

Claim.—1st. The construction of the hull of a vessel with the bottom and bilge formed by a pair of curves, such as reverse catenarian curves, concave to the water and springing from a central keel with a curve of small curvature, and dipping at their outer extremities with curves of much greater curvatures to side keels parallel to the centre keel, substantially as described. 2nd. The construction of the hull of a vessel so that its general conformation and sections will correspond substantially with those shown in Figures 1 and 2.

No. 38,040. Manufacture of Spoons and Forks.

(*Fabrication de cuillers et fourchettes.*)

Hubert C. Hart, Unionville Connecticut, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. A blank for spoons and forks consisting of a wide portion D., having a handle portion of the length it is to be when finished, and which interlocks as shown, substantially as shown. 2nd. A blank for forks and spoons consisting of a wide portion having straight edges and a handle portion of about the length it is to be when finished, the said handle portions having the edges of their ends intersect the edges of the converging lines of the wide portion, substantially as set forth. 3rd. A blank for spoons and forks, consisting of a wide portion having straight edges, a handle portion of about the length it is to be when finished, the shank of the handle of about a finished width, and the handles interlocking, as shown, substantially as subscribed. 4th. A blank for spoons consisting of a wide portion having its outer end rounded, its edges straight, and the handle portion of about the length it is to be when finished, substantially as shown. 5th. A spoon blank having a handle portion and a bowl portion of about a finished length, the bowl portion being narrower than the finished width, and having straight edges, substantially as described. 6th. A method of making spoons and forks consisting in cutting a blank of a thickness corresponding to the thickest part of the finished article and of about a finished length, and then widening the handle and bowl, respectively to the desired width, substantially as described. 7th. A method of producing spoons and forks consisting in cutting a blank having a shank of about the finished width, a handle and a bowl portion of a finished length, and then widening the handle and bowl portion to the desired width, substantially as described. 8th. A process of producing spoons, consisting in cutting a blank having a handle portion of about a finished length, a bowl portion of about a finished length, but narrower than when finished, then rolling the bowl portion crosswise to get the desired width, and flattening the handle portion to get the desired width, substantially as described. 9th. A method of producing spoons and forks consisting in cutting from the material a series of interlocking blanks, rolling said blanks crosswise to obtain the desired width, and lengthwise to obtain the desired length, and cutting from said blank after the rolling process is completed the contour of the finished article, substantially as described. 10th. A method of producing spoons and forks consisting in cutting from the material a series of interlocking blanks, each blank being about two-thirds the length required for the finished article, rolling said blank crosswise to obtain the desired width and lengthwise to obtain the desired length, and cutting from said blank after the rolling process is completed the contour of the finished article, substantially as described.

No. 38,041. Cough Sirup.

(*Sirop pour la toux.*)

Etienne Germain, Quebec, Que., Can, 2nd January, 1892; 5 years.

Résumé—Une composition formée d'eau, de goudron americain, de miel, de sucre d'érable, d'alcool et de residue de racines de sang de dragon dans les proportions ci-dessus donnees.

No. 38,042. Packets or Pads for Electric Cells.

(*Garniture ou coussinet pour piles électriques.*)

Lewis Hopkins Rogers, Brookline, Massachusetts, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. The herein described packet or pad for an electric cell, consisting of an electrolytic chemical, and a casing or envelope of absorbent or porous material containing said chemical, adapted to be moistened to form the active material of the cell, substantially as set forth and described. 2nd. The herein described packet or pad for an electric cell, consisting of a casing or envelope of absorbent material adapted to be placed between, and to rest against, both the positive and negative elements of the cell, said casing containing a charge of electrolytic chemical, which chemical dissolves and forms the active material of the cell when the pad is moistened, substantially as set forth and described. 3rd. The herein described packet or pad for an electric cell, consisting of sheets of blotting paper joined together at their edges, forming an envelope or casing, and a charge of an electrolytic chemical contained between said sheets of blotting paper, said pad being adapted to be placed between and to rest against both the positive and the negative elements of the cell, to form the active material when said pad is moistened, as set forth and described. 4th. A packet or pad for an electric cell, consisting of an electrolytic chemical and a casing or envelope of absorbent or porous material, containing said chemical, substantially as described, having a portion of said casing made of increased thickness to retard the polarization of the cell, as set forth. 5th. A packet or pad for an electric cell, consisting of an electrolytic chemical, a casing or envelope of absorbent or porous material containing said chemical, and a perforation in said packet, having an eyelet or other binding for the purpose, as set forth. 6th. An electric cell, consisting of a positive element, a negative element and a packet or pad consisting of an electrolytic chemical, a casing or envelope of absorbent or porous material encasing said chemical, placed between the elements of the cell and adapted to form the electrolyte by moistening said packet, as set forth and described. 7th. An electric cell, consisting of a positive element, a negative element and a packet or pad introduced between the two elements, consisting of an electrolytic chemical encased within a casing or envelope of absorbent or porous material, said casing being of an increased thickness on one side to retard polarization of the cell, as set forth and described. 8th. A packet or pad for an electric cell, consisting of an electrolytic chemical, a casing or envelope, containing said chemical, made of absorbent or porous material, said casing having been previously saturated with a solution of the resulting chemical produced by the electrolysis of the enclosed chemical, whereby the starting of the action of the cell is accelerated, as set forth and described.

No. 38,043. Receiver for Telephones.

(*Récepteur téléphonique.*)

Ferdinand Gross, Montreal, Quebec, Canada, 2nd January, 1892; 5 years.

Claim.—1st. The combination with a telephone receiver of a compressible cushion, for the purpose set forth. 2nd. The combination with a telephone receiver of a compressible cushion, and means for attaching same to said receiver. 3rd. The combination with a telephone receiver of a compressible cushion and an elastic hood C, as shown, and for the purpose set forth. 4th. The combination with a telephone receiver of an air cushion for the purpose set forth. 5th. The combination with a telephone receiver of an air cushion with means for inflating same, for the purpose set forth. 6th. The combination with a telephone receiver of a soft rubber air cushion, for the purpose set forth. 7th. The combination with a telephone receiver of soft rubber air cushion, with means for inflating same, for the purpose set forth. 8th. The combination with a telephone receiver of a soft rubber hollow annulus, inflated with air. 9th. The combination with a telephone receiver of a soft rubber hollow inflated annulus, with means for inflating same. 10th. The combination with a telephone receiver of a soft rubber, hollow, inflated annulus, with means for attaching same to such receiver. 11th. The combination with a telephone receiver of a soft rubber, hollow, inflated annulus, with means for inflating and attaching same to such receiver. 12th. The combination with a telephone receiver of a soft rubber, hollow, inflated annulus A, inflating tube B, and elastic hood C, as shown, and for the purpose set forth.

No. 38,044. Bicycle. (*Bicycle.*)

James H. Mathews, Ludington, Michigan, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. In a safety bicycle, the combination with the front fork, the rearwardly and downwardly curved backbone, the hanger depending from the end of the same and terminating in a hook, a horizontal

disposed reach bifurcated to embrace and pivoted to the lower end of the backbone, and a hange rhaving an eye depending from the reach in rear of its bifurcation, of a barrel, a threaded plug mounted in the rear end of the barrel and having an eye, a suspension link connecting the same with the eye of the rear hanger, a perforated plug mounted in the front end of the barrel, a plunger rod terminating at its inner end in a head, and having at its outer end an eye mounted in the perforation of the front plug, a coiled spring mounted upon the rod between its head and the front plug, said head being adjustable, and the suspension link connected to the eye of the plunger and removably engaging the hooked end of the front hanger, substantially as specified. 2nd. In a safety bicycle, the combination with the front fork, the rearwardly curved and downwardly disposed backbone loosely connected with the fork, the hanger depending from the backbone, the horizontally disposed straight reach bifurcated at its front end and pivoted to the backbone above the hanger, the rear hanger depending from the reach in rear of the bifurcation, of the seat standard extending rearwardly and upwardly from the backbone above and between the two hangers, and the spring connection between said hangers, substantially as specified.

No. 38,045. Chute for Coal and Grain.

(Auget à charbon et grain.)

Thomas William Emery, Minneapolis, Minnesota, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. In a device of the class described, the combination with the metallic pipe-sections, with ribs or slats movably secured upon the outside of said sections longitudinally thereof, a hopper connected to one of said sections, and an angle iron frame secured upon the outside of said hopper at its upper edge, substantially as and for the purpose set forth. 2nd. In a chute, the combination of the hopper, the upper section or round pipe, the lower section or sections, slip-joints between said sections, means for coupling said sections together, and wooden slats secured longitudinally upon the said section by suitable staples, substantially as and for the purpose specified. 3rd. The combination, in a chute, of the hopper 4, provided with the angle iron frame 7, with the portion 5, connecting said hopper with the round pipe 6, the wooden slats 9, provided at convenient distances around said pipe 6, and the staples 10, substantially as described. 4th. The combination, with the hopper, of the round sheet metal pipe 6, the angle-iron 7, the lower section 12, connected with said pipe 6 by a slip-joint and a coupler 10, the lock 13, and the wooden slats 9, movably secured upon the several sections of the chute, substantially as described. 5th. A chute comprising in combination, a thin sheet metal pipe, loops for staples upon the exterior of said pipe, slats inserted through said loops longitudinally of said pipe, and shoulders or collars upon said pipe, against which the ends of the slats abut, and by means of which they are held in position, substantially as described. 6th. The combination with the pipe of the funnel or hopper arranged on the upper end thereof, and the angle iron 7 arranged about the edge of said hopper to strengthen the same and whereby the chute may be secured upon the edge of the wagon or bin, substantially as described. 7th. The combination in a chute of two or more sections of pipe, with the funnel or hopper arranged on the upper end thereof, said hopper being composed of the abrupt portion 11 and the less abrupt portion 5, substantially as and for the purpose specified. 8th. The combination with the round pipe of the hopper forming the upper end thereof, and hooks provided on said hopper for securing the same on the wagon or bin, and slats arranged at equal distances about and longitudinally upon said parts to strengthen the same, substantially as described.

No. 38,046. Device for Securing Guard Rails in Place. *(Appareil pour tenir en place les contre-rails.)*

George David Smith and Kennet William Blackwell, both of Montreal, Quebec, Canada, 2nd January, 1892; 5 years.

Claim.—The combination with a section of line rail and a length of guard rail, of metal clamps set on edge and clipping closely the under sides and outside faces of such rails, substantially as herein described and for the purposes set forth.

No. 38,047. Wooden Shovel.

(Pelle de bois.)

James Henry Still, St. Thomas, Ontario, Canada, 2nd January, 1892; 5 years.

Claim.—The fork shaped metal connection B, B, which connects the handle A, A of the shovel with the blade C, C, substantially as and for the purpose hereinbefore set forth.

38,048. Thill Support.

(Armon de limonière.)

Andrew Henry Fletcher, Kingsville, Ontario, Canada, 2nd January, 1892; 5 years.

Claim.—As an article of manufacture, a thill-supporting spring, made of a piece of wire bent at the middle to form a tongue G, a spiral coil H, at one side of said tongue, and a spiral coil H^1 at the opposite side, the spiral H, having an arm J, and the spiral H^1 an arm J^1, both arms converging towards the end and extending tangentially from the spiral coils in a somewhat straight direction, the ends of said arms $J\ J^1$, connected together, substantially as and for the purpose set forth. 2nd. The combination with the thill coupling C of a bent wire thill-supporting spring, having a tongue G, inserted between the thill coupling and thill iron, said springs having spiral coils H H^1, surrounding the vehicle axle B, and arms $J\ J^1$, connected together at the end and extending forwardly of the coupling, and supporting the thill A, as set forth.

No. 38,049. Seine for Fishing.

(Seine pour la pêche.)

Maggie E. Jones, Little Rock, Arkansas, U.S.A., 2nd January, 1892; 5 years.

Claim.—1st. In a fishing seine, the combination, with a net having a surrounding rope and provided with exit-openings at the centers of the halves of its body and removable cords closing said openings, of poles seated in the river bottom and having pulleys at their upper ends, a division rope leading over the pulleys on opposite poles and extending between said exit openings to the shore, a windlass on the shore, and ropes leading therefrom over said pulleys to the surrounding rope, as and for the purpose set forth. 2nd. In a fishing-seine, the combination, with a net having exit-openings at points in its body, removable cords closing the same, and supports for said net, of poles having pulleys at their upper ends and a division-rope passing over said pulleys woven through the net between said exit-openings and extending to the shore, as and for the purposes hereinbefore set forth.

No. 38,050. Detachable Bail and Ear.

(Cercle et oreille mobiles.)

Lewis Newell Lusk, Kalamazoo, Michigan, U.S.A., 2nd January, 1892: 5 years.

Claim.—1st. The combination of the ears having the central holes, the chambered portions on the back, the passages through which the ends of the bail pass in attaching it and detaching it from the vessel, stop-springs in said passages, and a bail having the angled ends and heads, substantially as set forth. 2nd. The combination of the ears having the central holes, chambered portions on the back, the passages, the springs in said passages, and the bail having the ends turned at right angles and provided with the heads, the said right angled portions passing through the said central holes, substantially as set forth.

No. 38,051. Calk for Horse-Shoes.

(Crampon de fer à cheval.)

Joseph C. Higgins, A VanNest Baldwin and Thomas Lea, all of New Brunswick, New Jersey, U.S.A., 4th January, 1892: 5 years.

Claim.—1st. A horse-shoe calk composed of longitudinal sections, in combination with means, such as a wedge for securing the calk by spreading the sections within the aperture of the shoe. 2nd A horse-shoe having an aperture, in combination with a calk fitted in such aperture and formed of longitudinal sections, means substantially as described to secure the calk by spreading such sections within the aperture. 3rd. A horse-shoe having an aperture, in combination with a calk formed in sections and a wedge entering said calk from its contact or wearing end, and forcing the sections apart within the shoe. 4th. A shoe having an aperture, in combination with a calk composed of two similar longitudinal sections having corresponding registering grooves in their inner faces, and a wedge or pin forced into such grooves to force the sections of the calk within the shoe. 5th. In combination, a horse-shoe having the aperture, the calk composed of the shank to enter said aperture, and the tapered outer portion having a shoulder to bear against the shoe, said calk being split centrally and longitudinally and the fastening wedge inserted between the sections of the calk at the lower wearing point thereof, as and for the purposes set forth.

No. 38,052. Carriage Gear. *(Train de voiture.)*

Robert McLaughlin, Oshawa, Ontario, Canada, 4th January, 1892; 5 years.

Claim.—1st. A side spring connected at one end to a box fixed to the rear axle, substantially over its centre, and at its other end to a box fixed substantially over the centre of the front bolster, substantially as and for the purpose specified. 2nd. A side spring connected at one end to a box fixed to the rear axle substantially over its centre, and at its other end to a box fixed substantially over the centre of the front bolster, the roll or eye at each end of the spring having a bushing of rubber or other elastic material with a metal lining in the hole through the said bushing, substantially as and for the purpose specified.

No. 38,053. Check Hook. *(Crochet de sellette.)*

Alonzo Lobdell, Racine, Wisconsin, U.S.A., 4th January, 1892; 5 years.

Claim.—An improved check hook, comprising an upright member and a hook member, the latter extending forward toward and then curved to extend laterally across in front of and approximately transversely to the axial line of the upright member, substantially as set forth.

No. 38,054. Churn. (*Baratte.*)

John T. Mark, Straun, and Frank Bucher, Hartford, both of Kansas, U.S.A., 4th January, 1892; 5 years.

Claim.—1st. A hollow churn dasher, formed of a series of spaced, concentric rings, and increasing in diameter from its centre to its ends, substantially as described. 2nd. A tubular, barrel churn dasher, open at both ends, and comprising a series of spaced, concentric bandlike rings of varying diameter, said rings being one above the other edgewise, substantially as described.

No. 38055. Combined Shaft Supporter and Anti-Rattler. (*Tuteur de limoniere et compensateur combinés.*)

Charles Bishop, Cleveland, and Oliver D. Miller, Brooklyn, both of Ohio, U.S.A., 4th January, 1892; 5 years.

Claim.—1st. The pivotal washer P, having its axis in the side of the bracket concentric to the segmental slot *a*, provided with teeth for engagement with the teeth of the bracket, in combination with spring T, screw bolt and nut, connected with the bracket, substantially as and for the purpose set forth. 2nd. In a vehicle shaft supporter, the pivotal washer having its axis or pivot concentric with the segmental slot *a*, in combination with the bracket and spring, with means for securing the coiled terminal of said spring to the said washer, and the other terminal of the spring extending out in support of said shaft, substantially as described. 3rd. In a shaft spring supporter, the curved arm K, forming an integral part of the bracket, the coil I^1, of the spring circumscribing the said arm, and the terminal of the coil secured to the pivotal washer by means of screw bolt and nut in combination with the arm G, of the bracket and spring I, with means at outer terminal thereof for holding and supporting the vehicle shaft arranged, substantially as and for the purpose set forth.

No. 38,056. Combined Bed Clothes and Baby Holder.

(*Couvertures de lit et apareil combinés pour tenir les enfants.*)

Karl Kanzler, Saginaw, Michigan, U.S.A., 4th January, 1892; 5 years.

Claim.—1st. In a bed clothes fastener, the combination of an endless band having adjustable straps loosely secured to it on opposite sides thereof, and the adjustable straps and staples securing the straps to opposite sides of the bed, with loops secured to the endless band at equal distances thereon and on opposite sides of the band, as divided by the adjustable straps and clamps secured to the respective ends of the loops, substantially as described. 2nd. In a bed clothes holder, the combination of the endless band A and the adjustable straps C, C, secured loosely to the opposite sides of the endless band, and notched staples D, D, to which the straps C, C are secured, with the loops A^1, A^1 secured to the endless band A at equal distances and on the opposite sides of the band A, as divided by the straps C, C, and the clamps B, B, secured to the ends of A^1, A^1, for engaging the bed clothing, as and for the purpose set forth. 3rd. In a bed clothes holder, an endless band adapted to be loosely secured to each side of a bedstead, in combination with two clamps for engaging the bed clothing, secured to the endless band at equal distances and on opposite sides of the band, as divided by the bedstead attachment, whereby in turning the band to the right or left the clamp attachment may be adjusted to a large or small body, as the case may be, substantially as described.

No. 38,057. Chocolate. (*Chocolat*)

Victor Tobias and Heinrich Fischer, both of Berlin, Kingdom of Prussia, German Empire, 4th January, 1892; 5 years.

Claim.—As a new industrial product, a thoroughly liquid and preservable chocolate, free from fat, prepared by means of whey or poor milk, which is mixed after boiling with a mass composed of cocoa and sugar in the proportions specified, heated under pressure at a temperature of about 102° C, subsequently cooled and passed through a sieve having fine meshes by which the cocoa butter is separated from the chocolate, and whereby the latter is thoroughly freed from fat, substantially as described.

No. 38,058. Reversing Gear for Steam Engines.

(*Mecanisme de relevage pour machines à vapeur.*)

Daniel Avery Frazer and John Wesley Cosford, both of Mancelona, Michigan, U.S.A., 4th January, 1892; 5 years.

Claim.—1st. In combination with a steam engine having a double acting cylinder, a D valve, ports from said valve to the respective ends of said cylinder, an exhaust port beneath said valve, a rotary valve, as G, passing through all said ports, having a permanently open exhaust passage, and openings permanently connecting with said live steam ports adjacent to the D valve, having also an integral portion opposite one live steam port adapted to alternately open ports beneath the same leading to opposite ends of said cylinder and having two integral portions opposite the other live steam port, each adapted to alternately open a steam port leading to the respective ends of the cylinder, substantially as set forth. 2nd. In a steam engine, a double acting cylinder, a D-valve, live steam and exhaust ports, a rotary valve having an annular chamber H, openings H^1, and H^{11}, chambers I at each side of said valve, each having an opening into one end of the cylinder, and ports from the openings H^1, H^{11}, to said chambers I, I, and the air vent J, substantially as described.

No. 38,059. Holder for Jewels. (*Porte-bijou.*)

Ahner T. Richardson and Frank Russell Cunningham, both of Ware, Massachusetts, U.S.A., 4th January, 1892: 5 years.

Claim.—1st. A jewel holder consisting in the flat bar A, having transverse aperture *b* and a longitudinal slot forming spring jaws *c* c^1 a strap *e*, pivoted flatwise to the side of one jaw and having an eye *f*, a lever B, pivoted to the same side of the opposite jaw, and having an eccentric *g*, encircled by said eye *f*, substantially as set forth. 2nd. A jewel-holder consisting in the flat bar A, slotted longitudinally to form jaws *c* c^1, having notches to receive the jewel, a transverse aperture *b* at the inner end of the slot and a second aperture *a* in rear thereof, the link or strap *e* pivoted flatwise to the side of the jaw *c* and having an eye *f*, and the lever B, pivoted to the same side of the jaw c^1 and having an eccentric encircled by the said eye, substantially as set forth.

No. 38,060. Car Coupler. (*Attelage de chars.*)

Jeremiah William Kirby, Hans Peterson, Jesse L. Henry and William R. Getz, all of Great Falls, Montana, U.S.A., 4th January, 1892: 5 years.

Claim.—1st. In a car coupler, the combination with the drawhead, of the uncoupling rock-shaft, the crank-arm attached thereto and the vertical operating rod having an aperture or slotted end adapted to receive the rear end of the crank-arm, substantially as shown and described. 2nd. In a car coupler, the combination with the drawhead having longitudinal recesses in its upper face, a hooked link pivoted in one of the recesses, the catch bar arranged in the other recess, and the uncoupling arms arranged in each recess and adapted to be operated, substantially as shown and described. 3rd. In a car coupler, the combination with a drawhead having longitudinal recesses in its upper face, the pivoted hook or link, the transverse catch bar, the rock-shaft and lifting arms arranged in each recess, substantially as and for the purpose described. 4th. In a car coupler, the combination with a drawhead having longitudinal recesses in its upper face, one of said recesses being wider than the other and flaring at its front and rear end, the transverse catch bar arranged in the wider recess, and the hooked link pivoted in the narrow recess, all arranged, substantially as shown and described. 5th. In a car coupler, the combination with a drawhead having longituding recesses in its upper face, one of which is wider than the other, the transverse catch bar, the transverse rock-shaft, the lifting arms attached to the rock-shaft and resting in the longitudinal recesses, and the pivoted hook or link pivoted in the narrow recess above the lifting arm in said recess, substantially as shown and described.

No. 38,061. Case for Bottles. (*Caisse pour houteilles.*)

Claud Estelle Marlow and Daniel Shultz Park, both of Colorado, Texas, U.S.A., 4th January, 1892: 5 years.

Claim.—In a bottle-holding case or box, the combination, with inner encircling horizontal wires, of body and neck holding diaphragms constructed of metal bands or wires woven around the encircling wires and woven or twisted together to form circular supports for the bodies and necks of the bottles, substantially as described and set forth.

No. 38,062. Hot Water Heater. (*Calorifère à eau.*)

David Lancaster Dwinnell, the firm of Miller Bros. & Toms, all of Montreal, Quebec, Canada, 4th January, 1892: 5 years.

Claim.—1st. In a hot water heater, the water space sub-divided to prevent commingling of the streams from the return pipes at the base thereof, for the purpose set forth. 2nd. In a hot water heater, the water space of the fire-pot section, alone or together with the remaining section of the heater, sub-divided by partitions into compartments of varying sizes possessing different areas of heating surface, for the purpose set forth.

No. 38,063. Binder for Harvesters.

(*Moissonneuse-lieuse.*)

A. Harris, Son & Co., assignees of Lyman Melvin Jones and James Wedlake, all of Brantford, Ontario, Canada, 4th January, 1892; 5 years.

Claim.—In a harvester binder, an upper elevating canvas frame, loosely supported in such a manner that it will move vertically to suit the thickness of the grain being elevated, substantially as hereinbefore specified. 2nd. In a harvester binder, an upper elevating canvas frame, free at one end, but flexibly connected at its other end to the front of the elevator, the rear side piece of the said elevator being removed, substantially as hereinbefore specified. 3rd. In a harvester binder, an upper elevating canvas frame, free at one end, but flexibly connected at its other end to the front of the elevator, the rear side piece of the said elevator being removed, in combination with a spring or springs, arranged to act upon the rear side of the upper elevating canvas frame, substantially as hereinbefore

specified. 4th. A diagonal support K, bolted to the sill L, and resting on the extension N, of the wheel-frame extending obliquely to a point outside of the elevator frame, where it is turned upwardly to form a support for the rear of the seat-board E, substantially as hereinbefore specified.

No. 38,064. Rotary Engine, Blower, Pump, and Water Meter. *(Machine rotatoire, machine soufflante, pompe et compteur à eau.)*

Robert Johnson, Bradford, York, England, 4th January, 1892; 5 years.

Claim. In a rotary engine, blower, pump, or water meter, the combination with a vane cylinder having projecting vanes, of a valve cylinder geared thereto in such a manner that the cylindrical portions of said valve cylinder revolve at a greater surface speed than the cylindrical portions of said vane cylinder, substantially as herein shown and described, and for the purpose specified.

No. 38,065. Screen Door. *(Ecran de porte.)*

William R. Lyle, Ripon, Wisconsin, U.S.A., 4th January, 1892; 5 years.

Claim —1st. The combination, with a screen door frame provided with detachable cross strips and vertical strips, and adapted to receive storm panels upon one side, of the rails and mullions upon the opposite side corresponding with the strips, said strips interlocking with each other and with the door frame, substantially as and for the purpose set forth. 2nd. The combination, with a screen door frame and panels, of the cross strip 7, having lugs 9, the vertical strips 8, 8, and fastening device 11, for removably securing said strip to the screen frames, substantially as described.

No. 38,066. Suspender. *(Bretelles.)*

Elias H. Lieberthal, Bay City, Michigan, U.S.A., 4th January, 1892; 5 years.

Claim.—1st. The flexible junction piece C carrying the suspender ends, formed with a transverse slot and having combined with it a slotted plate, provided with downward projecting teeth *s*, on the upper wall of the slot in the plate, essentially as described. 2nd. The flexible junction piece formed of superposed layers of leather or other suitable flexible material and having a transverse slot therethrough, a plate secured between said layers and having a transverse slot registering with the slot in said junction piece, the upper wall of the slot in the plate being provided with downward projecting teeth, and the suspender ends B, B, secured between the lower ends of said layers, substantially as set forth.

No. 38,067. Corner Shield. *(Cornière.)*

David Henry Rockwell, Binghampton, New York, U.S.A., 4th January, 1892; 5 years.

Claim.—1st. The herein described spring metal plate for the purpose set forth, provided with the closely arranged, fine, continuous, biting serrations, having ragged edges on their inner sides, as and for the purpose set forth. 2nd. The herein described triangular spring metal plate for the purpose set forth, having its edges provided with the fine, closely arranged, biting serrations arranged and formed to operate as set forth. 3rd. In combination, triangular spring metal plates E, E and D, all of said plates having their engaging edges provided with closely arranged biting serrations, substantially as shown and described. 4th. In a shield or protector for the purpose described, consisting of a plate having serrations on its edges and recesses formed in opposite edges for the reception of screws, substantially as specified.

No. 38,068. Compound Dynamo Electric Machine.

(Machine dynamo-électrique composée.)

Reliance Electric Manufacturing Company, Waterford, Ontario, Canada, assignees of Frank Bankson Rae, Detroit, Michigan, U.S.A., 4th January, 1892; 5 years.

Claim.—In a dynamo-electric generator, the combination, with a series coil and shunt-coil, of vertical cores and two horizontal pole-pieces, each of the latter having a circular groove formed therein, bounding the base and top of the core, and of the desired shape and dimensions to accommodate and hold the said series coil in a position independent of the shunt-winding, substantially as described.

No. 38,069. Motor Truck for Electrically Propelled Vehicles. *(Châssis de moteur pour voitures à propulsion électrique.)*

Reliance Electric Manufacturing Company, Waterford, Ontario, Canada, assignees of Frank Bankson Rae, Detroit, Michigan, U.S.A., 4th January, 1892; 5 years.

Claim.—1st. A motor truck consisting of a rectangular frame rigidly mounted on the axles, cross-bars connected to the frame supporting the motor, a counter-shaft also connected to the frame, and gears connecting the armature and axle through the medium of the counter-shaft and operating the wheels upon the axles, substantially as described. 2nd. A motor truck consisting of a rectangular frame rigidly supported upon the axles, cross-pieces mounted on the frame to which the field magnets of the motor are connected, a counter-shaft also connected to the frame, gearing connecting the armature and one of the axles, and connecting rods connecting the wheels together, substantially as described.

No. 38,070. Process and Apparatus for Refining and Purifying Petroleum. *(Procédé et appareil pour raffiner et purifier le pétrole.)*

Herman Frash, Cleveland, Ohio, U.S.A., 4th January, 1892: 5 years.

Claim.—1st. The process hereinbefore described of desulphurizing and refining sulphur-bearing petroleum or petroleum distillate, by vaporizing the same in a still, passing the vapor through a vessel or vessels partially filled with a solution or mixture of metallic oxide or other substance having a strong affinity for sulphur, which is carried in film or spray through the vapor by means of one or more brushes or equivalent device, substantially as and for the purposes described. 2nd. The process of desulphurizing hydrocarbon liquids by means of a solution of metallic oxide, by causing the vapor of the liquids to pass over and in contact with moving surfaces wet with the oxide solution, substantially as described. 3rd. The combination of a still for vaporizing petroleum, a vapor chamber containing one or more cylinders, each having a revolving brush, suitably connected together; substantially as and for the purposes described. 4th. The combination of the still A, the casing D, connected therewith, the cylinders B and C within the casing, a revoluble brush H within each cylinder, and the pipes E, *a*, *b*, and *c*, and condenser F, constructed and arranged substantially as described. 5th. The combination with a vaporizing still of a cylinder or cylinders connected with the vapor space of the still, and each having a revolving brush, and a refrigerating or condensing apparatus, substantially as and for the purposes described. 6th. As a device for treating hydrocarbon liquids with desulphurizing liquids, a cylinder containing a revolving brush constructed substantially as described.

No. 38,071. Art or Process of Refining Petroleum.

(Art ou procédé pour raffiner le pétrole.)

Herman Frasch, Cleveland, Ohio, U.S.A., 4th January, 1892: 5 years.

Claim.—1st. The process of purifying petroleum from sulphur compounds, consisting in subjecting crude sulphur bearing petroleum to the action of nitrous acid during the process of distillation, for the oxidation and separation from the oil of such sulphur compound, substantially as described. 2nd. The process of purifying petroleum from sulphur compounds, consisting in mixing together nitrate of potash and sulphuric acid which has been previously used in the ordinary sulphuric acid treatment of petroleum, placing said mixture in a still, charging crude sulphur-bearing petroleum into the still, heating the still, first to produce nitrous acid, and then to distill over the petroleum, then re-distilling over lime the distillate thus produced, and subjecting the final distillate to the ordinary sulphuric acid treatment, substantially as described. 3rd. The process of purifying sulphur-bearing petroleum, consisting of first distilling crude petroleum in the ordinary way; second, agitating the distillate in an agitator into which nitrous acid fumes are introduced during the agitation; third, washing the distillate thus treated with water and alkali to remove the sulphuric acid formed therein by the preceding operation; fourth, treating the distillate with sulphuric acid; and finally redistilling the treated distillate over lime, once or oftener substantially as and for the purposes hereinbefore described. 4th, In the process of purifying sulphur-bearing petroleum or its distillate, treating the same with nitrous acid, for the purpose of oxidizing the sulphur compounds, and afterwards distilling the oil or distillate, substantially as and for the purposes hereinbefore described.

No. 38,072. Treatment of Vegetable Textile Fabrics for the Manufacture of Yarns and Fabrics. *(Traitement de la fibre végetale pour la fabrication des fils et étoffes.)*

Felix Victor Max Raabe, London, England, 5th January, 1892; 5 years.

Claim.—1st. In the treatment of vegetable textile fibres for the manufacture of yarns and fabrics, subjecting said fibres to the action of a solution of an alkali and urine mixed together, substantially as herein set forth, preparatory to opening, cleaning and dividing said fibres. 2nd. The process of treating vegetable textile fibres for the purpose set forth, which consists in subjecting said fibres to the action of a solution of an alkali and urine mixed together, rinsing the fibres so treated, removing the rinsing liquid therefrom, drying the said fibres, and finally opening, cleaning and dividing said fibres, substantially as herein described. 3rd. The herein described process of treating vegetable textile fibres, for the purpose set forth, which consists in boiling said fibres in a solution of an alkali and urine mixed together, rinsing the fibres so treated, treating the fibres in a hydro-extractor, drying the fibres, treating them in a "shake-willey," and opening, dividing and cleaning said fibres in a compound machine, comprising an opener of the Garnett type, and a carding engine having two or more "swifts" suitably clothed, as set forth.

No. 38,073. Wheeled Vehicle. (*Voiture à roue.*)

William Farquhar, Montreal, Quebec, Canada, 5th January, 1892; 5 years.

Claim.—1st. The application of straight wheels to ordinary road carts, turning around their axles, for the purpose hereinabove described. 2nd. The application, to road vehicles, of revolving axles independently of the revolving wheel, substantially as described hereinabove.

No. 38,074. Safety Cut-Out. (*Interrupteur de sûreté.*)

Reliance Electric Manufacturing Company, Waterford, Ontario, Canada, assignees of Frank Bankson Rae, Detroit, Michigan, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. The combination, with a circuit controller included in an electric circuit, consisting of a bridge having two terminal points adapted to make and break contact with terminals of said circuit, of a system of levers placed in operative relation to said circuit controller, an electro-magnet and armature for operating said system of levers, said electro-magnet being included in the main circuit, a branch electric circuit, including a dielectric, and extending from the working circuit to the ground, and including a coil co-operating with the aforesaid electro-magnet, all arranged to operate substantially as described.

No. 38,075. Limit Switch. (*Commutateur limité.*)

Reliance Electric Manufacturing Company, Waterford, Ontario, Canada, assignees of Frank Bankson Rae, Detroit, Michigan, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. In a limit switch, a circuit-breaker normally held within the field of force of a magnet, the poles of which are included in the circuit, substantially as described. 2nd. In a limit switch, the combination with the poles of a magnet included in the circuit, of a circuit-breaker normally in electric contact with the poles within their field of force, mechanism controlling the movement of the circuit-breaker, the arrangement being such that when the circuit is broken the field of force is at its maximum, substantially as described. 3rd. In a limit switch, the combination with the magnets having pole pieces included in the electric circuit, of a circuit-breaker in electric connection with the pole pieces and within their field, and an armature lever controlling the circuit-breaker and controlled by the magnets, substantially as described. 4th. In a limit switch, the combination with the magnets having pole pieces including in the electric circuit, of a circuit-breaker in electric connection with said pole pieces and in their field of force, a lever carrying said contact-piece, an armature lever normally engaging said contact-piece, the armature of which is operated by the magnets, and a spring for regulating the operation of the armature lever, substantially as described. 5th. In a limit switch, the combination with the magnets, the coils of which are included in the circuit, the said magnets being provided with pole pieces also included in the circuit, of a circuit-breaker connecting the pole pieces, and an armature lever controlling the circuit-breaker, and an insulated armature carried by said armature lever, substantially as described. 6th. In a limit switch, the combination with the magnets, the coils of which are included in the circuit, the said magnets being provided with pole pieces also in the circuit, of a contact-breaker connecting the pole pieces and an armature controlling the contact-breaker, arranged to be operated by said magnets when the current is excessive, whereby at the movement of breaking the circuit the field of force of the extended pole pieces is at its maximum, substantially as described. 7th. In a limit switch, the combination with the magnets having extended pole pieces included in the circuit, of a contact piece connecting the pole pieces, non-magnetic plates between the pole pieces and the contact piece, an armature lever controlling the circuit-breaker, and an armature connected therewith and surrounded by an insulating material and operated by the magnets, the thickness of the insulating material being less than the thickness of said non-magnetic pieces, substantially as described. 8th. In a limit switch, the combination with the magnets having pole pieces included in the circuit, of a circuit-breaker connecting the pole pieces, a lever carrying the circuit-breaker, adjustable springs normally holding said lever under tension, an armature lever controlling said circuit-breaker, and a lever, the armature of which is controlled by the magnets, substantially as described. 9th. In a limit switch, the combination of the magnets, the coils of which are included in the circuit, the said magnets being provided with polar extensions also included in the circuit, non-magnetic plates secured to said pole pieces, springs secured to the plates, and a circuit-breaker connecting said poles and fitted in space between said springs and plates, substantially as described. 10th. In a limit switch, the combination with the magnets, of a circuit-breaker constituting the neutral part of the magnetic system, substantially as described. 11th. In a limit switch, the combination with the magnets, of a circuit-breaker constituting the neutral part of the magnets under normal conditions, and an armature constituting the neutral part of the magnets when the circuit is broken, substantially as described. 12th. In a limit switch, the combination with the magnets, and circuit-breaker constituting the neutral portion of the magnetic system under normal conditions, of an armature controlled by the magnets, the arrangements being substantially as described, whereby the approach of the armature to the free poles of the magnets increases the field of force at the circuit-breaking portions of the magnetic system, substantially as described. 13th. In a limit switch, the combination with the magnets, of a circuit-breaker closing the poles of the magnets, and an armature controlled by the magnets and operating to close the magnetic circuit at the other end when it is broken by the operation of the circuit-breaker under abnormal conditions, substantially as described.

No. 38,076. Automatic Switch for Stationary Motors.

(*Commutateur automatique pour moteurs stationnaires.*)

Reliance Electric Manufacturing Company, Waterford, Ontario, Canada, assignees of Frank Bankson Rae, Detroit, Michigan, U.S.A., 9th January, 1892: 5 years.

Claim.—1st. A switch for electric motors, consisting of a lever and circuits and connections substantially as described, whereby the circuit is first closed directly through the shunt of the motor and through a resistance in the armature shunt of the motor, which resistance is gradually cut out as the switch lever is moved, until the circuit is direct through the shunt armature of the motor, substantially as described. 2nd. In a switch device for electric motors, the combination with a break switch in the main circuit, of a direct circuit including the field coils of the motor, a shunt for the armature including a series of resistances, and a switch lever in said circuit to gradually cut out the resistance as it is moved to start the motor, substantially as described. 3rd. In a switch device for electric motors, the combination with a break switch in the main circuit, of a connection therefrom including the field coils of the motor, a shunt including the armature of the motor, resistance devices in said shunt, and switch arm controlling the resistance devices and controlling the break switch, substantially as described. 4th. In a switch device for electric motors, the combination with a break switch in the main line, of a switch arm in the armature shunt, said arm provided with connections for automatically operating the break switch as it is moved to open or close the circuit of the motor, substantially as described. 5th. In an automatic switch device for electric motors, the combination with a break switch consisting of an arm having extensions, of a switch lever provided with an extension to engage the extensions on the break switch, whereby the break switch is automatically moved on the movement of the switch, substantially as described. 6th. In an automatic switch device for electric motors, the combination of a break switch having extensions, a switch lever, a series of resistances in the armature circuit controlled by said lever, and an extension on said lever for operating the break switch as the resistance devices are cut in or out of the circuit, substantially as described. 7th. In an automatic switch device for electric motors, the combination of the break switch in the main circuit, a circuit therefrom including the fields of the motor, a shunt circuit including the armature of the motor, resistance devices in said armature circuit, a switch lever controlling said resistance devices, and an electric magnet controlling said switch lever, substantially as described. 8th. In an automatic switch device for electric motors, the combination with a break switch in the main circuit, of a switch lever in the armature circuit controlling the resistance therein, an extension on said lever operating the break switch, and an electric magnet and armature controlling the switch lever, substantially as described. 9th. In an automatic switch device for electric motors, the combination with a pivoted break switch having extensions, of a pivoted switch lever having an extension engaging the extensions of the break switch, an electro magnet controlling the movement of said switch lever, and a spring for retracting it to its normal position, substantially as described. 10th. In an automatic switch device, the combination with the pivoted break switch having extensions, the pivoted switch lever having an extension engaging the break switch, a shunt armature-circuit for the motor, including a series of resistances, an electro magnet included in said circuit, an armature for the magnet provided with a catch engaging the switch lever, and a spring for retracting the switch lever, substantially as described.

No. 38,077. Painting Machine. (*Machine pour peindre.*)

Edmin Armitage, Toronto, Alexander Grant Cole, Ottawa, Thomas Dill, Toronto, all of Ontario, Canada, 9th January, 1892; 5 years.

Claim.—In a machine for painting fabric materials, the combination of a frame consisting of standards united at their upper ends by side bars, said bars being each provided or formed with two projecting threaded standards or lugs, and having their upper ends grooved; grooved guide bars, located above the connecting side bars, a roll mounted in boxes fitting the grooved guide and side bars, screws passing through the standards and bearing against said boxes, rolls also mounted between the guide and side bars in a line with the first named roll, and connected by an endless apron, the roll nearest the first named roll being mounted in adjustable boxes, screws passing through the other standards of the side bars and adjusting the last named boxes, mechanism located above said endless apron or table, for automatically distributing a coat of paint upon the material as it passes over the table, and means for rotating the rolls, substantially as described. 2nd. In a machine for painting fabric material, the combination of a frame, consisting of standards united by upper and central side bars, said upper side bars being formed or provided each with two projecting threaded standards or

lugs, and having their upper edge grooved, a web roll journaled in bearings at one end of the frame, a roll journaled in the central side bars, a roll journalled above the web roll, grooved guide bars located above the upper side bars of the frame, a roll mounted in the boxes fitting the grooved guide and side bars, screws passing through the standards and bearing against said boxes, rolls also mounted between the guide and side bars in a line with the first named roll and connected by an endless apron, the roll nearest the first named roll being mounted in adjustable boxes, screws passing through the other standards of the side bars and adjusting the last named boxes, a roll at the forward end of the frame, means for rotating the several rolls, and mechanism located above the endless apron or table for automatically distributing a coat of paint upon the material as it passes over the table, substantially as set forth. 3rd. In a machine for painting material, the combination of a frame, standards located at the forward end thereof and provided with guides, a collar secured to the standards and having a threaded aperture, a movable block sliding in the guides formed in the standards, an adjusting screw passing through the collar and having its lower end passing into a threaded aperture in the movable block, a paint distributing plate journaled in the movable block, and a paint tank provided with a fawcet for directing the paint upon the distributor from which it is fed to the material operated upon, substantially as set forth. 4th. The combination of the web roll 4, rolls 7 and 8, journaled in the framework of the machine, a standard 9, extending upwardly from the upper side bar and having an aperture through which passes an adjusting screw 10, the movable roll 16, the table formed by a continuous jacket passing over the periphery of the two rolls 17 and 21, the roll 21 giving a rotary motion to the said jacket and roll 17, the paint distributer 21, adjustably connected to the standard 38, of the paint tank frame, the paint tank 34, provided with a fawcet and an agitator, substantially as and for the purpose specified. 5th. In a painting machine, the web roll 4, journaled in the framework 1, the roll 7, journaled in bearings 6, formed on the side bar 5, the roll 8, journaled in bearings formed on the upper corner of the machine, the roll 16, journaled in movable bearings 14, sliding in guides formed between the guide bar 11, and upper side bar of the framework, the roll 17, journaled in movable bearings 15, sliding in guides formed between the said guide bar 11, and the side bar of the machine, adjusting screws 10 and 19, for moving respectively, the bearings 14 and 15, the roll 21, journaled in stationary bearings 23, a continuous rubber jacket 20, passing over the periphery of the said rolls 17 and 21, the roll 23, journaled in suitable bearings 24, formed on the extension of the said side bar 5, a paint distributor 51, journaled in bearings adjustably attached to the standard 32, and operated by means of an adjusting screw 49, passing through a collar 48, rigidly secured to said standard 32, a removable tank 34, inserted in the frame work and provided with a fawcet to supply the paint to the distributor 51, midway between the toe and the journal, an agitator 40, rigidly secured to a spindle 38, journaled in the said paint tank 34, and fitted on its upper end with a bevelled gear 39, a bevelled gear 41, fitted to the end of the spindle 42, journaled in bearings formed on the upper side of the framework supporting the paint tank, a sprocket wheel on the end of the said spindle 42, and driven from the roll 21, by means of a sprocket chain passing over the sprocket wheel on the end of the said spindle and on the end of the said roll, substantially as and for the purpose specified.

No. 38,078. Method of Welding Rings by Electricity.

(Méthode de souder les anneaux par l'électricité.)

The Thomson Electric Welding Company, Boston, assignees of Hermann Lemp, Lynn, both of Massachusetts, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. The herein described improvement in welding metal rings or other curved metal objects, which consists in causing the electric current to pass through the continuous portion of the blank in amount sufficient to soften the same, and moulding or conforming such continuous portion to the curve required simultaneously with the welding operation. 2nd. The herein described method of forming rings or other endless metal objects having an open centre, consisting in bending a bar of metal of a length greater than the circumferential length of the desired finished article until its ends overlap, springing the ends apart and abutting them, and then electrically welding said ends together, while at the same time moulding the continuous portion of the bar to the exact conformation desired. 3rd. The herein described improvement in making electrically welded rings, which consists in forming a curved blank from a continuous piece of metal of somewhat greater length than the circumferential length of the finished ring, placing the free ends of the blank in abutment in an electrical welding apparatus and then forcing them toward one another to effect the weld, while at the same time shaping or moulding the other portions of the blank to the desired curve or form. 4th. The herein described improvement in forming rings or other curved metal objects by the electric welding process, consisting in moulding or shaping the continuous parts of the object to the finished form in the operation of forcing the parts to be welded toward one another. 5th. The herein described method of forming electrically welded rings, consisting in bending a bar or piece of metal into a curve with its ends overlapping to the extent required for the weld, springing the ends apart and abutting them against one another, and then forcing such ends toward one another while heated by the electric current, and at the same time moulding the metal to the shape of the finished ring. 6th. The herein described method of electrically welding rings or other curved objects, consisting in bending a rod or bar of metal into the general shape required, abutting the ends against one another, passing an electric current across the joint and then forcing the ends toward one another, while at the same time moulding the metal to the shape of the finished article desired.

No. 38,079. Transformer for Heavy Currents.

(Transformateur pour courants.)

The Thomson Electric Welding Company, Boston, assignees of Hermann Lemp, Lynn, both of Massachusetts, U.S.A., 9th January, 1892; 5 years.

Claim. 1st. A secondary conductor consisting of a copper bar conformed to the primary circumferentially, and having one or more grooves or depressions in its face to receive such primary. 2nd. In a transformer, a secondary consisting of a bar of copper cast in one piece with a groove or depression adapted to receive the primary conductor. 3rd. In a transformer, a secondary formed of a solid bar or mass of copper, having an opening through it adapted to receive the core or magnetic mass of the transformer, and provided with a groove or depression for the primary conductor. 4th. In a transformer, the combination, with a primary conductor, of a secondary conductor formed as a solid bar or mass of copper, having an opening through it, and provided on one or both its faces with a groove or depression adapted to receive the primary wire or conductor. 5th. In a transformer, a secondary consisting of a bar of copper cast in one piece with a groove or depression adapted to receive the primary conductor cut in two, and provided at either side of the cut with suitable clamps to transmit the current to translating devices.

No. 38,080. Electrical Apparatus for Welding Rings.

(Appareil électrique pour souder les anneaux.)

The Thomson Electric Welding Company, Boston, assignees of Hermann Lemp, Lynn, both of Massachusetts, U.S.A., 9th January, 1892: 5 years.

Claim.—1st. In an electric metal-working apparatus, the combination of two clamps or clamping jaws having a conducting-bearing on the outside of the curve of the ring or other curved object, and adapted to be moved toward one another on a line intersecting such curve, as and for the purpose described. 2nd. In an electric metal working apparatus, the combination, substantially as described, of two curved clamping jaws pivoted eccentrically to the curve on which their clamping faces are formed. 3rd. In an electric welding apparatus for welding rings and other curved pieces, the combination of two semi-circular jaws, one or both pivoted to move on a line intersecting the circumference of their circle, of which their curved clamping faces form a part. 4th. In an electric welding apparatus, the combination, substantially as described, of two semi-circular jaws pivoted to one side of the circumference of a circle formed by the ring or other curved object which is to be welded or worked electrically between them. 5th. In an electric welding apparatus, the combination of the semi-circular clamping jaws, each provided with a block of some good conducting material, like copper, and adapted to bear against the outside of the ring or other object to be welded when the jaws are forced toward one another.

No. 38,081. Sliding Clamp for Electric Welding Apparatus. (*Crampon mabile pour soudage électrique.*)

The Tompson Electric Welding Company, Boston, assignees of Hermann Lemp, Lynn, both of Massachusetts, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. In an electric welding or metal working appartus, a slide supported on its rest or bed by a V-shaped bearing, said slide and bed being included in an electric circuit to the work, so that the electric current will pass through the bearing. 2nd. The combination, in an electric welding or metal working apparatus, with a clamp-slide having a V-shaped bearing or bearings, of a downward pressure spring, as and for the purpose described. 3rd. The combination, in an electric welding or metal-working apparatus, of a clamp slide, a fixed bearing therefor, and interposed conducting rolls of copper or other good conducting material, as and for the purpose described. 4th. The combination, with the movable slide, in an electric welding or metal working apparatus, of a downward pressure spring carried beneath the slide and interposed rolls between such spring and the bed or table. 5th. In an electric welding appartus, a conducting slide having a mechanical bearing and electrical contact or connection through V-shaped bearing surfaces, as and for the purpose described. 6th. The combination, in an electric welding or metal working apparatus, with a V-shaped conducting slide or depending rod or rods and springs carried thereby for imparting a downward pressure. 7th. The combination, in an electric welding and metal working apparatus, of a conducting slide supported on a seat or bed by a V-shaped bearing, and having a rod or rods extending through such rest or bed for connection with springs for holding the slide in contact with the bed. 8th. The com-

bination, with the conducting slide, in an electric welding or metal working apparatus, of a conducting slide rest on which the slide bears by a V-shaped bearing and interposed conducting cylindrical rods of copper, as and for the purpose described. 9th. The combination, with a conducting slide, in an electric welding or metal-working apparatus, of a V-shaped bearing for said slide and interposed roller-contacts, as and for the purpose described.

No. 38,082. Electric Welding Machine.

(Appareil de soudage électrique.)

The Thomson Electric Welding Company, Boston, assignees of Hermann Lemp, Lynn, both of Massachusetts, U.S.A., 9th January, 1892; 5 years.

Claim. 1st. The combination, in an electric metal working apparatus of a plurality of transformer secondaries, arranged parallel to one another and in contact with the work holding devices, so as to apply current to the same in multiple arc. 2nd. The combination, in an electric metal working apparatus, of two secondary bars or conductors having separate cores and arranged at angles to one another, in combination with a clamp slide working in the angular bearing formed by the outer surfaces of the secondary bars or conductors, as and for the purpose described. 3rd. The combination, in an electric metal working apparatus, of a plurality of secondary bars or conductors, disposed circumferentially around the work holding devices, and in contact therewith, as and for the purpose described. 4th. The combination, in an electric metal working apparatus, of work holding devices divided into sections insulated from one another, and secondary bars or conductors disposed symetrically around the same at different angular positions and in contact respectively, with the parts of said work holding devices. 5th. The combination, in an electric metal working apparatus, of a four part work holding clamp, sections of which are insulated from one another, and four secondary bars or conductors disposed symetrically around the same, as and for the purpose described. 6th. The combination, with the divided work holder, of separate transformer secondaries, each having a separate core, and means for regulating the current in the primaries of the transformers, as and for the purpose described. 7th. The combination, in an electric metal working apparatus, of different secondary bars or conductors, supplying different parts or portions of the work and each having a separate core, and means for varying the current in the primaries of said secondary conductors. 8th. In an electric metal working apparatus, the work holder having two or more clamp jaws working on converging lines, and insulated from one another. 9th. In an electric metal working apparatus, a clamp side or base divided into sections insulated from one another, and provided with separate clamp jaws working toward a common centre. 10th. In an electric metal working apparatus, the combination, with a work holder, of a plurality of clamping jaws, a separate pressure cylinder for each jaw, and means for controlling the pressure in said cylinders simultaneously. 11th. The combination, with a plurality of clamp jaws d, working in converging lines, of a pressure cylinder for each, a source of pressure common to said cylinders, and a valve for controlling the pressure.

No. 38,083. Type-writer. (*Clavigraphe.*)

Jacob Felbel, New York, N.Y., Assignee of Andrew Wilson Steiger, Bridgeport, Connecticut, all in the U.S.A., 9th January, 1892; 5 years.

Claim—1st. In a type-writing machine, the combination of a guided rod and a type carrier, pivotally connected thereto at two points. 2nd. In a type-writing machine, the combination of a guided rod, and a type carrier pivotally connected thereto at two points by means of two pivoted links, substantially as described. 3rd. In a type-writing machine, the combination of links 10 and 17, pivotally connected each to a type carrier and to a rod arranged between the links 10 and 17 and adapted to move therewith, substantially as described. 4th. In a type-writing machine, the combination of links 10 and 17, pivotally connected at their inner ends to a type carrier, a rod 8, pivotally connected at 12 to the link 10, and at 16 to the outer end of the link 17, and a guide for the rod 8, substantially as described. 5th. In a type-writing machine, the combination of links 10 and 17, pivotally connected to a type carrier, a rod 8, pivotally connected to said links, and a guide for said rod, substantially as described. 6th. In a type-writing machine, the combination of links 10 and 17, pivotally connected to a type carrier, a rod 8, pivotally connected to said links, and a guide lever for said rod, substantially as described. 7th. In a type-writing machine, the combination of links 10 and 17, pivotally connected to a type carrier, a rod 8, pivotally connected to said links and having an extension, and a guide for said rod, substantially as described. 8th. In a type-writing machine, the combination of links 10 and 17, pivotally connected to a type carrier, a rod 8, pivotally connected to said links and having an extension, and a guide lever connected to said extension, substantially as described. 9th. In a type-writing machine, the combination of links 10 and 17, pivotally connected to a type carrier, a rod 8, pivotally connected to said links, a guide lever, a lefter and a key lever, substantially as described. 10th. In a type-writing machine, the combination of a downwardly and inwardly extending link 10, a substantially horizontal link 17, a type carrier connected to the inner ends of said links at the points 13 and 18, and a guided rod 8, connected at 9 to the link 10, and at 16 to the outer end of the link 17, substantially as described.

No. 38,084. Burner for Crude Oil or other Liquid Fuel. (*Foyer à combustible liquide.*)

Theodore Willi and Alfred Bradley, both of Dayton, Ohio, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. The combination, with the cup-shaped burner provided with a central conical or tapering recess in its floor and the oil supply pipe opening into the bottom of said recess, of a solid metallic vaporizer having its lower or base part fitted into said recess in such manner that an oil chamber is formed below it therein, and provided with a surrounding annular recess in said lower part to form a heating chamber with the burner, and suitable ducts extending from the oil chamber below the burner to the said recess and from the recess to the floor of the burner, substantially as specified. 2nd. The combination, with the burner A, having the recess a and the supply pipe g opening into the bottom of said recess, of the solid metallic vaporizer B, having the lower portion b provided with the surrounding annular recess D and the sets of ducts C and E, the upper portien b^1 extending above the floor of the burner and forming the shoulder b^2 with the lower portion, substantially as specified.

No. 38,085. Copy Holder for Type-writers.

(Porte-manuscrit pour clavigraphes.)

William Joseph Still and Samuel John Moore, both of Toronto, Ontario, Canada, 9th January, 1892; 5 years.

Claim. 1st. A desk having a clamp pivoted on it and actuated by springs, in combination with a light frame pivoted on the said clamp and set so that its sides are held clear of the desk by its upper end, substantially as and for the purpose specified. 2nd. A desk having a clamp pivoted on it and actuated by springs, in combination with a light frame pivoted on the said clamp and set so that its sides are held clear of the desk by its upper end, and a bar or rod movably connected to the said plate, substantially as and for the purpose specified. 3rd. A desk A, pivoted at a, on the legs D, to which the legs C are pivoted at b, in combination with the metal plate D, pivotally supported by the posts E, and actuated by a suitable spring, in combination with the wire frame G, pivoted at f in the plate D, and set so that its upper end g, only shall be held in contact with the face of the desk A, by the action of the springs H, substantially as and for the purpose specified.

No. 38,086. Guide Rod for Tops of Freight Cars.

(Barre conductrice pour couvertures de chars à marchandises.)

Michael Sullivan, Royalton, Wisconsin, U.S.A., 9th January, 1892; 5 years.

Claim. The combination of a railway freight car with three rows of railing and posts arranged at intervals upon the top of said car, so as to provide hand supports and two distinct passage ways for brakemen in passing from one car to the other, substantially as described.

No. 38,087. Boot and Shoe. (*Chaussure.*)

Thomas John Hood, Newtown Road, Sydney, New South Wales, Australia, 9th January, 1892; 5 years.

Claim.—1st. A boot or shoe for foot wear, wherein the inner edge of the sole is formed unbent or approximately so, and approximately in line with the heel, whether or not the outer corner of the toe is curved or cut away, substantially as described. 2nd. A boot or shoe for foot wear having an elastic webbing fixed in the forward part of the vamp, and extending from the leg to the root of the toes, or thereabouts, substantially as described. 3rd. The combination with a boot or shoe upper of an elastic web fixed centrally or approximately so in one or more sections, and extending to a point at the root of the great toe, or thereabouts, substantially as described. 4th. The combination with a boot or shoe upper or vamp having an elastic web extending from the leg to the root of the toes, or thereabouts, of a covering flap or tongue rigidly secured along one edge to said vamp, and at the other edge held down against said upper or ramp by buttons, clips, or laces, substantially as described. 5th. The combination of a boot or shoe upper having an elastic web extending from the leg to the root of the toes, or thereabouts, of a covering flap or tongue rigidly secured along one edge to said vamp and at the other edge held down against such upper or vamp by buttons or equivalent contrivances, and a bellows piece between the free edge of such flap or tongue, and the part of the upper or vamp lying below same, substantially as described. 6th. The combination with a boot or shoe upper or vamp of the general form illustrated, of a flap or tongue covering the elastic webbing, such flap or tongue being secured centrally to the said webbing and at the edges held down by buttons or equivalent contrivances, substantially as described. 7th. The combination with a boot or shoe upper or vamp of an elastic web extending from the legs to the toes, or thereabouts, and provided with an interior tongue sewn to or integral with the upper or vamp at the one edge and free at the other edge, substantially as described with reference to Figure 4 of the drawings.

No. 38,088. Animal Trap. (*Piège.*)

Chancy Robert Jenne, Fort Wayne, Indiana, U.S.A., 9th January, 1892; 5 years.

Claim.—An animal trap having vertical sides, an elongated tapering platform pivoted therein, a rear inclosed end, a bait receptacle within the same, a magnet secured to the under side of the outer enlarged end of the platform, a sill having a keeper on its inner side for engaging the magnet, an offset or projection on said platform to rest upon the upper face of said sill, a stop on one of the sides to arrest the revolution of the platform when in operation, and a detachable base having a central opening, into which the sides of the trap project for engagement therewith, said base adapting the structure for support upon and access to a suitable vessel.

No. 38,089. Adding Machine. (*Machine pour additionner.*)

Joseph Edward Blackshaw, Pittsburgh, Pennsylvania, and George Henry Rogers, Birmingham, Albama, both in the U.S.A., 9th January, 1892; 5 years.

Claim.—1st. The combination in an adding machine, of a ring graduated upon its outer side with subdivisions and numbers representing hundreds, and upon the inner side with units extending throughout the circumference up to one hundred, a central toothed disk having graduations and teeth corresponding in number and progression to those on the inner side of the ring, means for rotating the disk, an index hand at the outer circumferance of the ring and gears for connecting the disk to said index hand, substantially as shown and described. 2nd. The combination in an adding machine, of a ring C, graduated as described, the central toothed disk E, having a cam and actuating lug on its inner side, a spring clutch *i*, pinions *g* and *h*, the gear wheel G, bearing arm G^1, and index hand *e*, and the friction spring, substantially as shown and described. 3rd. The combination with the toothed disk, and central pin, of the loose collar F^1, and the adjusting arm F, connected thereto so as to rock as described, and bent up to form a handle, and then outwardly to engage the teeth of the disk, substantially as shown and described 4th. The combination in an adding machine, of the central disk E, the ring C, graduated as described and provided with a slot in the face, a train of gears connecting the disk with an index hand moving over the ring, a detant arranged in said train of gears, and an arm *m*, connected to the detent and extending through the slot, substantially as shown and described. 5th. The combination of the base plate A, having pivotal pin *a*, the containing case B, the ring C, graduated as described, and provided with radial arms C^1, and hub C^2, the central toothed disk E, and the swinging adjusting arm F, substantially as described.

No. 38,090. Milk Erator. (*Garde-lait.*)

Lewis Jefferson Macy, Pulaski, New York, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. A cooler and ærator for milk cans, consisting essentially of a receptacle provided with a perforated bottom, and having secured to its outer surface a series or set of legs or supports, their lower ends provided with a series of notches of seats adapted to engage and be supported upon milk cans of different diameters or sizes, substantially as specified. 2nd. A cooler and ærator for milk cans, consisting essentially of a receptacle provided with a perforated bottom, and having secured to its outer surface a series or set of legs or supports, their lower ends provided with a series of notches or seats adapted to engage milk cans of different sizes, and a second dish or receptacle having a perforated botton placed beneath the first receptacle, and held in position by supporting notches formed in said legs or supports, substantially as described. 3rd. The cooler and ærator for milk cans, having the receptacle provided with a perforated bottom, the legs or supports securred to said receptacle, said legs being formed of parts having different lengths, each series of corresponding parts being adapted to engage milk cans of differrent diameters, and a second receptacle or pan provided with a perforated bottom placed beneath the first receptacle and engaging supporting notches in the said legs, substantially as desecribed.

No. 38,091. Feather-Duster. (*Plumeau.*)

Josiah Taylor Hair, Chicago, Illinois, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. The combination in a feather-duster of down or feather cloth, with a handle extending up between the folds of the feather cloth and secured near its upper and lower ends, substantially as shown and described. 2nd. In a feather-duster, the combination of a down or feather cloth, with a handle provided with a frame, substantially as shown and described. 4rd. In a feather-duster, a pocket located between the folds of the down and feather cloth, in combination with a frame, substantially as shown and described. 4th. In a feather-duster, the combination of the down or feather cloth A, the handle G, having hole *d*, the frame F, pocket D and wire H, substantially as described. 5th. In a feather-duster, a pocket located between the folds of the down or feather cloth, substantially as shown. 6th. In a feather-duster, a pocket located between the down or feather cloth, in combination with a frame and handle, substantially as shown and described. 7th. In a feather-duster, the combination of feathers with or without the bones, secured upon fabric by an adhesive substance, with a handle provided with a frame, substantially as shown and described.

No. 38,092. Mainspring Winder.

(*Dévidoir pour grand ressort.*)

Alden R. Vaughan, Pawtucket, Rhode Island, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. A spring winder consisting of two plates of metal, connected together by posts, a ratchet wheel mounted in the centre between the plates, an adjustable winding arbor passing through the ratchet wheel, a two armed pawl and means for operating the same, a clamping device for holding the outer end of the spring and arms for holding the barrel, substantially as set forth. 2nd. In combination with a spring winder means for holding the barrel, consisting of two bent arms S, sleeves P having cams Q at their lower ends, caps R, screw T, collar V and clamping bar U, arranged and operated substantially as shown and described. 3rd. In combination with a spring winder, an adjustable clamp for holding the outer end of the spring, consisting of the sliding block J, clamp K and screw L, substantially as shown and described. 4th. In a spring winder, the combination of the frame A, B, C, ratchet wheel D, and adjustable winding arbor E, handle F and collar G, with the pawl H, pawl lever I and spring *i*, substantially as set forth. 5th. In a spring winder, the combination of the frame A, B, C, ratchet wheel D and adjustable winding arbor E, handle F, collar G, pawl H, pawl lever I and spring *i*, with the adjustable block J, clamp K and screw L, substantially as shown and described. 6th. In a spring winder, the frame A, B, C, bent arms S, sleeves P, cams Q, caps R, screw T, collar V and clamping bar U, in combination with the ratchet wheel D and adjustable winding arbor E, handle F, collar G, pawl H, pawl lever I, spring *i* and adjustable block J, clamp K and screw L, substantially as shown and described.

No. 38,093. Tin Can or Receptacle.

(*Boite en fer blanc.*)

William Pratt, Montreal, Quebec, Canada, 9th January, 1892; 5 years.

Claim.—1st. A tin can or receptacle, the cover of which, after being soldered to the body, is removable therefrom and capable of reuse by the removal, from cover and body of a connecting strip which forms the portion of the body to which said cover is soldered and is an integral part of such body as set forth. 2nd. A tin can or receptacle, the cover of which is formed with a peripheral rim shaped in part to fit within the body and rest upon the edge of same, and the body having an integral detachable connecting strip to which the inserted portion of such cover is soldered, and means for detaching said strip, as set forth. 3rd. A tin can or receptacle, the body of which contains a beading or depression near its upper edge serving to weaken the metal at such point and thereby provide a detachable connecting strip between such body and the cover of the can and to which strip said cover is soldered. 4th. A tin can or receptacle, the cover of which is formed with a peripheral rim shaped in part to fit within the body and rest upon the edge of same, the body having an integral detachable connecting strip to which the inserted portion of such cover is soldered, and said strip having an extended free end to furnish a holdfast for its removal. 5th. A tin can or receptacle, the body of which is weakened upon a line near its upper edge to provide an integral detachable connecting strip between such body and the cover of the can, to which strip said cover is soldered. 6th. A tin can or receptacle, the cover of which is formed with a peripheral rim shaped in part to fit within the body and rest upon the edge of same, and after being soldered to the body is removable therefrom and capable of reuse by the removal, from cover and body, of a detachable connecting strip provided by an outwardly pressed V-shaped beading or depression in such body near its upper edge adapted to be severed at its apex to allow the removal of said strip and present an outwardly flaring edge for the easy reinsertion of said cover, as set forth.

No. 38,094. Barrel Setting-up Machine.

(*Chantier de baril.*)

John Parker, Philadelphia, Pennsylvania, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. The combination in a barrel setting-up machine, of the stave receiving heads, grooved segments thereon, adapted to receive the staves as they are fed into the machine, radial guides for said segments, and mechanism for simultaneously moving said segments towards and from the centre of the heads, substantially as and for the purpose specified. 2nd. The combination, in a barrel setting-up machine, of the hoop driving arms, and a stave receiving head composed of a number of rapidly movable segments, grooved for the reception of the ends of the barrel staves, with a split ring adapted to said groves, and by which the end thrust of the staves is taken, substantially as specified. 3rd. The combination of the hoop driving arms, and a stave receiving head composed of a number of radially movable segments grooved for the reception of the staves, with a central hub, bars connecting the hub and the said segments, whereby said segments may be moved radially, substantially as specified. 4th. The combination of the stave receiving heads, and hoop driving mechanism, with a transverse shaft, toggle levers connecting the shaft with the stave receiving head, a parol bar secured to said shaft and adapted to be acted upon by the hoop driving head

on its rearward movement, substantially as specified. 5th. The combination of the stave receiving head, and hoop driving head, the transverse shaft in the rear of said stave receiving head and connected thereto and to the hoop driving head, bearing blocks for said shafts longitudinally movable on the frame of the machines with devices for adjusting said bearing block, substantially as specified. 6th. The combination of the stave receiving head with a hoop driving head carrying a number of rigid arms, each of said arms terminating in a driving block and springs carried thereby for holding the hoop in position against said block, substantially as specified. 7th. The combination in a barrel setting-up machine, of the hoop driving head, with a stave receiving head composed of a number of radially movable segments, the centre hub and its shaft, radial arms extending from said hub to the said segments, a rock shaft mounted on the frame and connected to the central hub and carrying a toe, and tapered block on the hoop driving head adapted to act upon said toe, substantially as and for the purpose set forth.

No. 38,095. Package for Shipping and Preserving Butter. Prepared Meats. Fruits. &c. (*Enveloppe pour transporter et preserver le beurre, les viandes, fruits, &c..*)

Remus A. Kneeland, Benton Harbor, Michigan, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. In a butter package, substantially as described, the combination of a glass jar, a pail designed to receive the said jar, a belt and sling in which the said jar is supported in the said pail, a cover adapted to close air-tight on the said pail, substantially as and for the purpose set forth. 2nd. In a butter package, the combination of a pail having a bead formed near its upper edge, an annular belt of a smaller diameter than the pail, wire legs supporting the said belt, a sling supported on opposite sides of the said belt, a tapering glass jar deeper than the said pail, adapted to be suspended in the said belt, a packing secured on said bead, cover having pins on its opposite sides, pivoted hooks on the pail, adapted to engage the said pins, substantially as and for the purpose set forth. 3rd. In a butter package, the combination with an air-tight casing of a glass jar, suspended in the said casing and an air space, completely surrounding the said jar, substantially as and for the purpose set forth.

No. 38,096. Art or Process of Felting Fur Bodies.

(*Art ou procédé de feutrage.*)

Howard W. Flagg, Yonkers, New York, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. A method of felting fur or similar bodies, which consists in protecting them while being felted, by a suitable elastic material employed in sufficient quantity to form a padding for them and prevent them from being injured or torn, substantially as described. 2nd. A method of felting fur or similar bodies, which consists in protecting them while being felted, by a suitable elastic fibrous material, employed in sufficient quantity to form a padding for them and prevent them from being injured or torn, substantially as described. 3rd. A method of felting fur or similar bodies, which consists in protecting them while being felted, by a suitable fibrous material employed in sufficient quantity to form a padding for them and prevent them from being injured or torn, substantially as described. 4th. A method of felting fur or similar bodies, consisting in protecting them while being felted by wool, employed in sufficient quantity to form a padding and prevent them from being torn or injured, substantially as described. 5th. A method of felting fur or similar bodies, consisting in working them together with other bodies of suitable fibrous material, employed in sufficient quantities to form a padding and to prevent them from being torn or injured, substantially as described. 6th. A method of felting fur or similar bodies, consisting in working them together with other bodies of elastic fibrous material, employed in sufficient quantities to form a padding and prevent them from being torn or injured, substantially as described. 7th. A method of felting fur or similar bodies, consisting in working them together with wool bodies, employed in sufficient quantities to form a padding and prevent them from being torn or injured, substantially as described. 8th. A method of felting fur or similar hat-bodies, consisting in working them in a fulling mill simultaneously with wool hat-bodies, employed in sufficient quantities to form a padding for the fur hat-bodies and prevent them from being injured or torn by the hammers of the fulling-mill, substantially as described.

No. 38,097. Tobacco Pouch. (*Sac à tabac.*

William James Cussen, Richmond, Virginia, U.S.A., 9th January, 1892; 5 years.

Claim. 1st. The combination of a pouch, a draw string looped around its mouth and having its ends free, and an extension b^1, connected to the loop in the draw string at one side of the pouch, substantially as described. 2nd. The combination of of a pouch, a draw string looped around the mouth thereof within the hem, and having its ends extending from the hem at suitable points beyond their intersection, and an extra string b^1, connected to the draw string at a point between its ends substantially as described. 3rd. The combination of a pouch, a draw string passed loosely around and secured to the mouth of the same, the ends of this string intersecting each other on one side of the pouch and remaining free, and provided with stops on their ends, substantially as described. 4th. The pouch or bag provided with a draw string looped around its mouth, the ends of the string being formed into loops on opposite sides of the mouth, by having their ends turned back and attached to the pouch, whereby a single string may be employed to both open and close the pouch, substantially as described.

No. 38,098. Electrical Door Bell Pull.

(*Poignée de timbre de porte électrique.*)

Lewis W. Cleveland, Portland, Maine, U.S.A., 9th January, 1892; 5 years.

Claim.—1st. In an electrical door bell pull, the combination of the handle and spring about its spindle, whereby it is normally held in place, with a second spring actuated spindle and the insulating material through which said spindle is movable, and the binding posts in said material, whereby when the handle and its spindle are drawn out said second spindle is insulated by its spring action and makes connection between said binding posts, substantially as described. 2nd. In combination with a door escutcheon, and a metal cylinder C, fixed thereto at one end, the handle A and its spindle, and the hard rubber G fixed in the opposite end of the cylinder and projecting beyond said cylinder, and the binding posts and spring actuated and headed spindle E, substantially as and for the purposes set forth. 3rd. In an electric door bell pull, the combination of the spring actuated handle and the insulating material and binding posts therein with the second spring actuated spindle in alignment with the first spindle, movable through said insulating material, and all in the manner and for the purposes described. 4th. In an electrical door bell pull, substantially as described, the combination of the door escutcheon and sleeves or cylinders attached thereto, the hard rubber or insulating material secured in and to the outer end of said sleeve or cylinder, and the binding posts secured to said material, and the headed and spring actuated metal spindle movable within said sleeve or cylinder and also through said insulating material, and the handle and its connections normally holding said headed spindle out of contact with the binding posts, substantially as and for the purposes set forth.

No. 38,099. Combined Spool Holder and Needle Cushion. (*Porte-bobine et coussin à aiguilles combinés.*)

Arthur J. Bowslaugh, Centralia, Ontario, Canada, 9th January, 1892; 5 years.

Claim.—As a new article of manufacture, a combined spool stand or holder and needle cushion, consisting of standard A, formed with the shoulders A^1, A^2, in combination with the trays B, B^1, in each of which sockets b^2, and recess or receptacles C are formed, the spindles D, the base c^3, the cover c^2 and the fibrous filling c^1, substantially as shown and described, and for the purpose specified.

No. 38,100. Chemical Fire Engine.

(*Extincteur d'incendie chimique.*)

Charles Patton, Collingwood, Ontario, Canada, 11th January, 1892; 5 years.

Claim.—1st. The glass lining *b*, *b* in combination with a chemical fire engine, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the handle F, head E, rod *d*, arms *h*, h^1, tube C, C, bars S, S, screens P and V, metal band X, substantially as and for the purpose hereinbefore set forth.

No. 38,101. Metallurgical Process.

(*Procédé métallurgique.*)

Jasper Henry Selwyn, Gloucester Crescent, Hyde Park, County of Middlesex, England, 11th January, 1892; 5 years.

Claim.—1st. For the purpose of recovering metals or metalloids, or both, from their ores or combinations, the use of di-chloride of sulphur in combination with a nitrate or nitrite in a bath of chloride of sodium or other suitable solvent as set forth. 2nd. The use of any of the well known solvents of metal, such as hydro-sulphite of soda, hy-drochloric acid or cupric sulphate in combination with the chloride of sulphur, and the nitrate or nitrite referred to in the preceding claim in a bath as above. 3rd. The manufacture of sulphur from pyritous ores in the manner set forth. 4th. The use for the purposes specified, and in combination with nitrates or nitrites in solution of substances such as S^2 Cl^2, which will present nascent chlorine. 5th. The method or process of recovering metals or metalloids, or both, from refractory ores without roasting, as described. 6th. In the treatment of refractory ores by the humid process, completely oxidising and chloridising the otherwise refractory metals and liberating the excess of sulphur, thereby dispensing with preliminary roasting by causing nitric hy-drochloric and sulphuric acids to be evolved in a nascent state as set forth.

No. 38,102. Insecticide. (*Insecticide.*)

William Lyle Watson, of Montreal, Quebec, Canada, 11th January, 1892; 5 years.

Claim.—1st. As a new article of manufacture, Paris Green or like substance incorporated with a solution of an adhesive substance and formed into shape. 2nd. As a new article of manufacture, cakes or shapes of Paris Green or like substance in powder incorporated with a matrix of an adhesive soluble substance. 3. A soluble and adhesive insecticide consisting of an admixture of Paris Green and gum senegal for application to plants in thin soluble form.

No. 38,103. Washing Machine. (*Machine à blanchir.*)

Thomas McCrossan, Winnipeg, Manitoba, Canada, 12th January, 1892: 10 years.

Claim.—1st. The herein described system of washing clothes in a tall and narrow wheel turning through hot water contained in a trough or tank at a level, but a little above the lowest part of the said wheel which, revolving through the water by reason of motion imparted to its horizontal shaft, causes the clothes by their gravity and that of the accessary washers folded and enclosed in them, as described, to fall successively from one shelf to the next in the said wheel into the washing water and through it, to be scrubbed and cleaned by the vertical, centrifugal and other imparted motions of said accessory washers acting with the other detergent agencies then at work upon the clothes thus brought into contact with the adjacent interior parts of the periphery of the wheel and its herein described shelves, all substantially as set forth. 2nd. In a washing machine, the combination with the tank D, having the splasher I, and outlet D, the hollow wheel B, horizontally mounted upon the shaft G, and a driving mechanism of the furnace C, having the slide H, the air holes *f*, door E, and smoke flue F, whereby the wheel B is rotated horizontally through the water in the tank containing the washing water heated and kept hot by means of the said furnace as set forth. 3rd. In a washing machine, the combination with the clothes receiving wheel B, having the cleats or slats *b*, to form its periphery and the cleats or slats *e* to form it shelves, of the frame A, the tank or trough D, and the furnace C, all substantially as set forth.

No. 38,104. Tool Holder. (*Porte-outil.*)

Anson Groves Ronan, Toronto, Ontario, Canada, 12th January, 1892; 5 years.

Claim.—1st. A tool post or tool holder having a joint therein as a means whereby the upper portion may be inclined at various angles of inclination to the lower portion, substantially as shown and described. 2nd. In a tool post or tool holder, the bed ring encircling the post and having its lower plane oblique to the circumference and its upper plane marginal around an inner circular curved surface forming a bearing to support the bolster ring thereon, said upper plane being at right angles to said circumference, substantiall as shown and described. 3rd. In a tool post or tool holder, the bolster ring encircling the post and supported on the bed ring, and having an inner circular curved surface to fit an adapted curved surface on said bed ring, substantially as shown and described. 4th. In combination, the tool post having a joint therein, as a means whereby it can be inclined, with a bed ring encircling said post and having its lower plane oblique to the circumference, its upper plane marginal around an inner circular curved surface, forming a bearing to support the bolster ring thereon, said upper plane being at right angles to said circumference, substantially as shown and described. 5th. In combination, the tool post having a joint therein as a means whereby it can be inclined, a bed ring encircling said tool post and having the form hereinbefore specified, and a bolster ring encircling said post, and having an inner circular curved surface to fit an adapted curved surface on said bed ring, substantially as shown and described. 6th. In combination, the tool post or tool holder having a joint therein for the purpose specified, a bed ring encircling said post and having the form hereinbefore set forth, a bolster ring also encircling said post and having the tool channel formed in the top thereof, and the caulks formed on the lower side of the bolster ring, substantially as shown and described.

No. 38,105. Lasting Machine.

(*Machine à enformer.*)

Charles S. Gooding, Brookline, and Sherman W. Ladd, Somerville, both of Massachusetts, U.S.A., 12th January, 1892; 5 years.

Claim.—1st. In a lasting machine, the combination with a lever, composed of two pivoted members, each member adapted to engage with the other member, intermediate the pivotal point, and the outer end of said other member, of a pincers mechanism, secured to the outer end of one of the members and an operating device secured to the outer end of the other member, substantially as described. 2nd. In a lasting machine, the combination with a lever composed of two pivoted members, each member adapted to engage with the other member, intermediate the pivotal point and the outer end of said other member, of a spring interposed between the contact point of one of the members with the other member, a pincers mechanism secured to the outer end of one of said members and an operating device secured to the outer end of the other member, substantially as described. 3rd. In a lasting machine, a pivoted lever, as 26, means for lifting and depressing the same, a lever 13, arranged to have positive engagement with the lever 26, during the uplifting movement thereof, a pincers mechanism jointed to and supported by the lever 18, and a yielding device interposed between the levers against which the lever 18, and pincers mechanism are lifted, substantially as described. 4th. The combination in the pincers of a lasting machine and with the fixed jaw thereof, of a movable jaw and spring actuated levers mounted on the fixed jaw and engaging with the movable jaw, the whole arranged as described, so that the power of the levers decreases as the movable jaw moves from and increases as it moves towards the fixed jaw, substantially as described. 5th. The combination in the pincers of a lasting machine and with the fixed jaw thereof, of a movable jaw and spring actuated levers engaging therewith, said levers being substantially at right angles to the line of movement when the pincers are closed, substantially as described. 6th. In a lasting machine, the combination of a pincers mechanism and a pivotally connected supporting carrier therefor, a rod 51 supported movably in the carrier, and springs 53, 53, interposed between the rod and carrier, and means for moving the rod, substantially as described. 7th. In a lasting machine and in combination, the carrier 30, a pincers mechanism supported thereby, a rod 32, connected with and supporting the carrier, and means for giving thereto a rocking movement, substantially as described. 8th. In a lasting machine and in combination, the rod 32, a pincers mechanism pivotally supported thereon, a cam for advancing the rod in one direction and a spring for moving the rod in the opposite direction, substantially as described. 9th. In a lasting machine and in combination, the driver 57, means for giving said driver a rocking movement, a pin supported movably in the driver and a connecting rod, attached to said pin and communicating with a pivotally supported pincers mechanism, substantially as described. 10th. In in lasting machine and in combination, the driver 57, having groove 62, as slide, as 63, movable in said groove, a rod pivotally connected with the slide at one end and with a pivotally supported pincers mechanism at its opposite end and means for giving the driver a rocking movement, substantially as described. 11th. The combination with the suspended shank carrying pincers at the lower end, of a rod connected therewith below the upper end, a driver vibrating on a fulcrum between its ends and a slide connected with said rod and movable on the driver across the fulcrum thereof, substantially as set forth. 12th. In a listing machine and in combination with the driver 57, means for giving said driver a rocking movement, a pin supported to slide across the fulcrum of the driver, a treadle device connected with the pin and a rod connected with said pin at one end and at the other end with a pincers mechanism pivoted at the upper end, substantially as described. 13th. In a lasting machine and in combination, the driver 57, mounted on the sleeve 56, as shown, means for rocking the sleeve, a groove 62 in the driver, and a slide 63 arranged to travel therein, a shaft located in the sleeve 56, and connected by a suitable gear mechanism with the slide 63, and the described treadle and intermediate connecting mechanisms for giving a rocking movement to the shaft, substantially as described. 14th. In combination in a lasting machine with a movable rod, as 13, the springs 53, 53, means for moving the rod against the tension of said springs and means for supporting the rod and springs, substantially as described. 15th. In a lasting machine, the combination with a stationary tack receptacle, of a carriage movable laterally relatively thereto and having a driving mechanism, secured to and moving with the carriage above the tack receptacle, and a tack carrier block secured to and moving with the carriage below the tack receptacle, substantially as described. 16th. In combination in a lasting machine, a receptacle for tacks, singly, a sliding block or carriage N, a hammer mechanism supported in said block, a tack carrier S, secured to and movable with the block below said receptacle, and means for advancing and withdrawing the block, substantially as described. 17th. In a lasting machine, the combination with a stationary tack receptacle, of a carriage movable laterally relatively thereto and a hammer or driving mechanism attached to the carriage, the lower portion of which is movable relatively to the operating line of movement of the upper portion. 18th. In a lasting machine, the combination with the tack receptacle of a reciprocating, jointed hammer, the lower portion of which is adapted to swing out of the line of vertical movement, and means for operating it, substantially as described. 19th. In a lasting machine, the tack carrier block S, having a tack receiving tube 83, the pivotally connected parts *f*, *f*, and spring devices 95, 95, substantially as described. 20th. The combination of the tack chute, a shaft, a tripper arm and a spring engaging with the shaft and with the tripper arm, substantially as described. 21st. The combination of the tack chute, a shaft and an adjustable tripper arm arranged to swing over and above the chute, substantially as described. 22nd. The combination of the tack chute, a rock-shaft having a positive motion in one direction and a yielding motion in the opposite direction, and a tripper arm operated thereby above and along the chute, substantially as described. 23rd. The combination of the tack chute, a spring actuated shaft, a tripper arm and mechanism for rocking the shaft positively in one direction, substantially as described.

No. 38,106. Manufacture of Tinware Vessels for Holding Liquids. (*Fabrication de vaisseaux en fer blanc pour contenir les liquides.*)

Winfield Scott Wait, assignee of Irving Dudley King, both of Orleans, New York, U.S.A., 13th January, 1892; 5 years.

Claim.—1st. The combination in each tin vessel or utensil of a groove C formed in the bottom thereof by indention thereon, without injury to the surface, and a piece of zinc B corresponding in size with the dent or groove C formed in the tin bottom A having its surrounding edges dished down and soldered all around in said grooves, all operating substantially as and for the purposes herein set forth.

No. 38,107. Fire Extinguishing Compound.

(*Composé pour extincteur d'incendie.*)

George Frederick Dawson and Hermann Newman, both of Bradford, England, assignees of Max Eberhardt, Lucerne, Republic of Switzerland, 13th January, 1892; 5 years.

Claim.—1st. A compound for extinguishing fires composed of chloride of soda, burnt alum, bi-carbonate of soda, liquid silicate of soda and water, substantially as described. 2nd. A compound for extinguishing fires composed of three kilogramme of soda, one-half a kilogramme of burnt alum, one-half a kilogramme of bi-carbonate of soda, five and a half kilogrammes of liquid silicate of soda and two hundred litres of water, substantially as described.

No. 38,108. Fence Post. (*Pieux de clôture.*)

Peter W. Weiennette, Saline, Michigan, U.S.A., 14th January, 1892; 5 years.

Claim.—1st. In a fence, the combination, with the end posts and wires connecting the same, of an internediate post consisting of a socketed base having tapering wings extending below the socket and inclined teeth formed on the upper edge of the socket, a standard having its lower end encased in the socket and movably secured therein, lateral pins on opposite sides of the standard engaging the teeth of the socket, and means for rotating the standard in the socket, substantially as described. 2nd. In a fence, a tightening post consist of a base formed with a socket in its upper end, teeth on the upper edge of said socket, having inclined upper faces and vertical side edges, a rotary standard having its lower end in cases in the socket and having a series of horizontal apertures through its upper portion, and lateral pins on opposite sides of the standard engaging the teeth of the socket, substantially as described.

No. 38,109. Car Coupler. (*Attelage de chars.*)

James A. Hinson, Des Moines, Iowa, U.S.A., 14th January, 1892; 5 years.

Claim.—1st. The combination in an automatic car coupler, with the draw head B, having a hollow buffer *a*, formed with an opening *b*, in its top, and a swinging knuckle D, of a pivoted latch G, having a horizontal slot *g*, at one end, and a longitudinal slot *h*, in its body, substantially as described. 2nd. The combination in an automatic car coupler, with a draw head B, having a hollow buffer *a*, formed with an opening *b*, in its top, and a swinging knuckle, of a latch G, having a horizontal slot *g*, at one end and a longitudinal slot *h*, in its body, and a trigger H, for supporting said latch in said buffer, substantially as described. 3rd. The combination, in an automatic car coupler, with a draw head B, having a hollow buffer *a*, formed with an opening *b*, in its top, of a latch G, having a horizontal slot *g*, at one end, a longitudinal slot *h*, in its body, and a shoulder *m*, on one side thereof, and a pivoted trigger H, having a lateral projection I, adapted to engage said shoulder and support said latch, substantially as described. 4th. The combination in an automatic car coupler, with a draw head B, having a shoulder *f*, projecting from its interior wall at one side and curved shoulders *c*, formed on its upper and lower sides at the end, of a knuckle D, having a tail-piece F, formed with a shoulder *e*, adapted to engage the first named shoulder, and rounded shoulders *d*, adapted to engage said curved shoulders, substantially as described. 5th. The combination, in an automatic car coupler, with a draw head B, having a hollow buffer *a*, formed with an opening *b*, in its top, of a latch G, having an elongated horizontal slot *g*, at one end, and a horizontal slot *h*, in its body, a lever M, having an arm *a*, formed with a slot *v*, at its end, and a chain *t*, connecting said latch and arm, substantially as described. 6th. The combination in an automatic car coupler, with a draw head B, having an opening *b*, in its top, of a latch G, having an elongated horizontal slot *g*, at its top, a longitudinal slot *h*, in its body, an inclined shoulder *i*, at its front edge, a verital shoulder *n*, and a horizontal shoulder *m*, and a trigger H, having a projection I, adapted to support said latch, substantially as described.

No. 38,110. Tractor for Obstetric Forceps.

(*Instrument de traction pour forceps obstétriques.*)

Albert B. Lyman, Baltimore, Maryland, U.S.A., 14th January, 1892; 5 years.

Claim.—1st. In combination with a pair of obstetric forceps, a tractor which consists of a hooked shank adapted for connection with the lock of the forceps, having a threaded stem which is at practically a right angle with the shank, a nut on the threaded stem, and a handle attached to the said stem, substantially as and for the purpose specified. 2nd. A tractor for a pair of obstetric forceps, which consists of a hooked shank with a stem projecting from it at practically a right angle, and a handle on the said stem, substantially as and for the purpose specified. 4th. A tractor for a pair of obstetric forceps, which consists of a hooked shank having a jointed threaded stem projecting therefrom with a nut thereon, and an adjustable handle dependent from said nut, substantially as and for the purpose specified. 5th. A tractor for a pair of obstetric forceps, which consists of a hooked shank with a stem projecting at practically a right angle therefrom, and a handle connected to the said stem, and lugs on the said shank, which, as the tractor is drawn down, bear against the handles of the forceps and communicate the inward movement of the tractor to the handles of the forceps, substantially as and for the purpose specified.

No. 38,111. Means for Preventing Fraud in the sale of Cigars. (*Moyen d'empêcher la fraude dans la vente des cigares.*)

Sebastien Azcano-Y-Meana, of Havana, Cuba, 14th January, 1892; 5 years.

Claim.—1st. The improved means for preventing fraud in the sale of cigars which consists in placing beneath the outer wrapper of cigars, countersigns of a distinct colour from the wrapper thereof, and arranging for such countersigns to appear at a point or points upon the surface of the same. 2nd. The improved means for preventing fraud in the sale of cigars which consists in a perforation in the outer wrapper thereof, and a countersign of a distinct colour from such wrapper arranged between same and the body of the cigar, and appearing through such perforation in the surface of the same. 3rd. The improved means for preventing fraud in the sale of cigars which consists in a coloured depression in the surface of the same.

No. 38,112. Device for Inducing Full Respiration.

(*Appareil pour aider la respiration.*)

Charles Cassat Davis, Los Angelos, California, U. S. A., 14th January, 1892; 5 years.

Claim.—1st. A device for using full respiration, comprising the combination of a chest compressor brace, and speed-regulated take-up mechanism adapted to contract such brace. 2nd. The combination of a case, the take-up mechanism in such case, and a chest compressor brace secured by one end to the case, and by the other end to the take up mechanism. 3rd. The combination of a case, a spring, a spring actuated barrel, a train of wheels and escapement pallet in said case, and a compressor brace attached by one end to the case, and attached by the other end to the spring actuated barrel reverse to the spring. 4th. The combination of a case, a spring actuated barrel, a spring, a spur wheel fixed upon such barrel, escapement mechanism, and ratchet mechanism connecting the spur wheel with the escapement mechanism. 5th. The combination of the spur wheel of the take-up barrel, a slip pinion meshing therewith and provided on its lower end with rachet teeth, a spur wheel coaxial with the slip pinion, and having a notched face arranged to engage such ratchet teeth, a spring arranged to hold the slip pinion in operative contact with its spur wheel, and escapement mechanism engaging with said spur wheel.

No. 38,113. Road Cart. (*Désobligeante.*)

James Woods, Strathroy, Ontario, Canada, 14th January, 1892; 5 years.

Claim.—1st. A draw brace, H, in combination with a shaft, F, pivoted thereon, at a point between its ends, which are perfectly free, and an axle, A, or other suitable support to which the draw brace, H, is secured, substantially as shown and described and for the purpose specified. 2nd. The draw brace, H, secured to the axle, A, or other suitable support, and the shaft, F, pivoted thereon, at a point between its ends, in combination with the spring, D, secured to the shaft, F, at one end, and pivotally secured to the jack, B, or other suitable support, substantially as shown and described, and for the purpose specified. 3rd. The straps, J, and K, and clevis or link couplings, L, L, and in combination therewith, the spring bar, E, and body, I, substantially as shown and described and for the purpose specified.

No. 38,114. Chair. (*Chaise.*)

Henry Augustus Gage, Manchester, and Harrison Eaton Herrick, Merrimac, all in New Hampshire, U.S.A., 14th January, 1892; 5 years.

Claim. 1st. In a chair, the combination of the seat having sockets, the rocker shaft, the hinge rods pivoted to said shaft, the rockers E, and the rods pivoted to the ends of the rockers and having their forward ends entering the sockets, together with the springs coiled around said rods, substantially as described. 2nd. The combination of the seat having sockets near the front edge, the rockers, the rocker shaft, the hinge rods pivoted to said shaft and having flat bearing faces adapted to rest on similar flat faces on the rocker arms, the rods pivoted to the rear ends of the rockers and having their forward ends entering loosely the sockets, and the spring

coiled around the rods, all operating substantially as described. 3rd. The combination with the chair seat A and screw D, of shaft C, having rockers E, E, with seats *e*, the rods F, secured to the under side of seat pivoted to shaft C, and having seats *f*, the sockets H, and the pivoted rods G, with springs *g*, substantially as described.

No. 38,115. Sleigh Runner for Vehicles.

(Patin de traineau pour voitures à roues.)

John Blankart, Detroit, Michigan, U.S.A., 14th January, 1892; 5 years.

Claim.—1st. In a sleigh runner adapted to be attached beneath the wheels of a vehicle, the combination with a runner having an upwardly projecting forward end, of a clamp screw therein, a U-shaped hook adapted to bear against the inner rim of the wheel, and with its hooked end to engage over a pin K, substantially as described. 2nd. In a sleigh runner adapted to be attached to vehicles, the combination, with the runner having an upwardly projecting part B, of a clamp screw J, the U-shaped hook L, the bearing M, a series of hooks or notches O, and the pin K, substantially as described. 3rd. In a sleigh runner adapted to be attached to vehicles, he combination with the runner having an upwardly projecting part B, of a clamp-screw J, the U-shaped hook L, the bearing M, a series of hooks or notches O, the pin K, a loop P in the clamp screw, and the strap adapted to be connected to the shafts and the wheel, the parts being arranged to operate substantially as described. 4th. The combination, with a sleigh runner adapted to be attached to four-wheeled vehicles, of a running connection between the two parts thereof consisting of a flexible strap secured to the front wheels and passing over a roller connected to the rear wheels, substantially as and for the purpose described. 5th. A sleigh runner having a clamp adapted to secure it to a wheel of a vehicle, and a connection between the runner and the vehicle frame, substantially as described.

No. 38,116. Railway Surface Cattle Guard.

(Garde bétail de chemin de fer.)

Parker Merrill, St. Louis, Michigan, U.S.A., 14th January, 1892; 5 years.

Claim.—1st. A railway surface cattle guard composed of a series of bars arranged substantially parallel with the rails, each bar arched or raised between its ends, substantially as and for the purpose specified. 2nd. A railway surface cattle guard composed of a series of bars arranged substantially parallel with the rails, each bar arched or raised between its ends, in combination with one or more transverse beams designed to support the arched or raised portion of the bars, substantially as and for the purpose specified. 3rd. A railway surface cattle guard comprising sections between and outside the rails of the track, said sections being composed of transverse beams that have their tops oval or round, and separated longitudinal bars strained across said beams, with a space between the upper surface of the ties and said bars, substantially as set forth. 4th. A railway surface cattle guard comprising one or more transverse beams secured to the ties, and a series of longitudinal bars provided with hooks at each end strained across said beams, and cross-bars passing beneath the rails and through the hooks at one end of the longitudinal bars, and a series of short hooks into hooks of longitudinal bars at opposite end from said cross-bars, and a series of short hooks on said cross bars, the said reries of short hooks being spiked to the outer faces of the ties supporting the terminal beams, substantially as set forth.

No. 38,117. Method of Laying Electrical Conduits.

(Méthode de poser les conduits électriques.)

John Joseph Wright, Toronto, Ontario, Canada, 16th January, 1892; 5 years.

Claim.—1st. As an improved method of laying electrical conduits, the placing of junction boxes between each length of pipe substantially in alignment with the pipe, and so placed as to depth below the pavement that the top of the junction box is located in the asphalt layer, as specified. 2nd. The junction box D, threaded as shown, to receive pipes E and nipple G, and having a lid J, having a projection *k*, extending to the top surface of the pavement, as and for the purpose specified. 3rd. The junction box D, provided with a lid J, having a tongue *j*, fitting into a groove *i*, formed around the opening I of the junction box, as specified. 4th. The junction box D, provided with a lid J, having a tongue *j*, fitting into a groove *i*, formed around the opening I, of the junction box, in combination with the projection *k*, arranged as and for the purpose specified. 5th. The junction box D, provided with interior raised rounded ends formed in proximity to the internal thread made to receive the pipes a specified

No. 38,118. Cover for Fruit Baskets.

(Couvert de panier à fruits.)

George H. Williams, Thorold, Ontario, Canada, 16th January, 1892; 5 years.

Claim.—The grooved end and centre cross pieces B of the frame into which the sides A are inserted, thus forming a strong and secure frame.

No. 38,119. Machine for Swaging the Ends of Metal Tubes. (*Machine à étamper les bouts des tubes métalliques.*)

John Patterson Kennedy, New York, N.Y., U.S.A., 16th January, 1892; 5 years.

Claim.—1st. In a machine for swaging the ends of metal tubes, the feed mechanism composed of a fixed cross-bar having a screw threaded bushing, a feed screw working through such bushing, and carrying at its inner end a clutch plug adapted for receiving and holding one end of the tube to be swaged, and a handle secured to the feed screw for operating it, as described. 2nd. In a machine for swaging the ends of metal tubes, the feed screw having a tapered shank, in combination with a reciprocating expansible clutch plug, composed of two or more sections, adapted to hold a tube when forced back and expanded on the tapered shank, and to release such tube when forced forward and collapsed. 3rd. In a machine for swaging the ends of metal tubes, the feed screw having a tapered shank, shoulder *j*, and an elongated bolt end, in combination with a reciprocating expansible clutch plug, composed of two or more sections, and having at its rear end a flange k^1, operating, substantially as and for the purpose described. 4th. In combination with the feeding mechanism of a machine for swaging the ends of tubes, the extended side bars, means for adjusting them out or in for different length tubes to be swaged, and connections to the cross-bar, which supports the feed screw, substantially as described. 5th. In combination with the seed mechanism of a machine for swaging the ends of tubes, the side bars and the detachable extension pieces connecting them with the cross-bar, which supports the feed screw, substantially as described. 6th. In combination with the feeding mechanism of a machine for swaging the ends of tubes, the side bars C, having shoulders *c*, projecting screw threaded ends *b*, and the detachable extension pieces C^1, having screw threaded sockets *c*, and screw-threaded ends for connection with the cross-bar F, carrying the feed screw H, substantially as described. 7th. In combination with the feeding mechanism of a machine for swaging the ends of tubes, the side bars C, having shoulders *c*, and projecting screw threaded ends *b*, for connection with the cross-bar F, carrying the feed screw H, the braces D, and the tube rest E, as and for the purpose described.

No. 38,120. Power machine for swaging the ends of metal Tubes. (*Appareil pour étamper les bouts des barres métalliques.*)

John Patterson Kennedy, New York, N. Y., U. S. A., 16th January, 1892; 5 years.

Claim. 1st. In a machine for swaging the ends of metal tubes, the feed screw provided with a clutch plug and mounted in the screw threaded opening in a fixed standard or bridge in combination with a spur wheel connected by a key or feather with the feed screw, a pinion meshing with such wheel and a belt pulley secured to the shaft of the pinion as and for the purpose described. 2nd. In a machine for swaging the ends of metal tubes an adjustable head or carriage, provided with means for supporting the feeding mechanism, in combination with the feed screw and a clutch plug and operating gearing, substantially as described. 3rd. In a machine for swaging the ends of metal tubes the extended bed plate having lateral guide ways, in combination with an adjustable carriage or head, supporting the tube feeding mechanism and having flanges fitted to the guide ways, and bolts for securing said carriage in any desired position to the bed plate as described. 4th. In a machine for swaging the ends of metal tubes the extended base or bed plate having a longitudinal slot with guide-ways, in combination with an adjustable head or carriage supporting the feeding mechanism and power gearing, and headed bolts passing through the bottom plate of said carriage, and through the slot in the bed plate for securing said carriage in any desired position. 5th. In a machine for swaging the ends of metal tubes the combination of the feed screw working through a screw threaded opening in a fixed support and having a tapered end of square or other angular cross section, in combination with a clutch plug of tapered or conoidal form externally and having a socket adapted to loosely fit on the tapered end of the feed screw as and for the purpose described. 6th. In a machine for swaging the ends of metal tubes the feed screw working through a screw threaded opening in a fixed support and having secured to its inner end a tapered or conidal plug in combination with a reciprocating collar loosely connected to the feed screw and having an enlarged portion overlapping the rear end of the plug, and adapted to automatically release the tube from the plug as described. 7th. In combination with the feed screw having a longitudinal slot near its inner end, and carrying a tapered or conoidal plug adapted to receive and hold a tube to be swaged, the reciprocating collar having an enlarged portion overlapping the plug and loosely connected to the shank of the feed screw by a bolt passing through the slot for automatically releasing the tube from the plug as described.

No. 38,121. Weather Strip for Doors.

(Bourrelet pour le bas des portes.)

William Beers, Toronto, Ontario, Canada, 16th January, 1892; 5 years.

Claim.—1st. As an improved weather strip for the bottom of doors, a strip of rubber or other flexible material fixed to a rail flex-

ibly connected to the bottom of the door and actuated by a spring in such a manner that the end of the rail shall project beyond the door, substantially as and for the purpose specified. 2nd. A flexible weather strip A, connected to a rail B, fitted into a recess formed in the piece C, so that its end shall project slightly beyond the end of the said piece in combination with the links D, and spring E arranged to connect the said rail to the said piece, which latter is secured to the bottom of the door, substantially as and for the purpose specified.

No. 38,122. Electric Show Case Alarm.

(Montre d'étalage à avertisseur électrique.)

Rudolph Charles Krusche, Duluth, Minnesota, U.S.A., 16th January, 1892; 5 years.

Claim.—1st. The combination with a show case tray, of two similar spring clips oppositely arranged with respect to each other, and supports adapted to hold articles for display and constructed to form an electrical contact with each other when the articles are removed from the clips, substantially as specified. 2nd. The combination with a show case of an electric alarm, a battery, and a removable tray provided with circuit closing devices adapted to be operated automatically when articles are removed from the tray, and electrical connections with the tray whereby the alarm is given when the tray is replaced in the show case, substantially as specified. 3rd. The combination, with the show case A and tray E, of the alarm bell B, the metallic strips *a*, *b*, the battery C, the clips F, contained by the tray and adapted to hold articles for display, and the wires connecting the strips *a*, *b* with the battery C, substantially as specified.

No. 38,123. Complete Combustion Mechanism.

(Mécanisme complet pour combustible.)

Thomas Brown, Des Moines, Iowa, U.S.A., 16th January, 1892; 5 years.

Claim.—1st. In a stove or furnace, a conoidal grate having an opening at its apex, a conductor or boxing having at its lower end an opening to admit the fuel, its upper end terminating at the apex opening of the grate, an annular ring at said apex opening, and an extension or extensions on the upper end of said conductor, whereby the grate is rotally and detachably mounted upon said conductor, together with a screw conveyer operated within said conductor, as set forth. 2nd. In a stove or furnace, the combination of a rotatably mounted conoidal grate pivotally mounted upon the upper end of the fuel conductor, an opening at its apex through which the fuel is fed upon the said grate, the grate bars of which latter radiate and incline outwardly and downwardly from said opening, and a stationary dead plate located at and disposed about the lower portion of the grate bars, said dead plate having a circular opening and serrations forming teeth, said teeth being in juxtaposition to the ends of the grate bars, together with means for rotating the grate, as set forth. 3rd. In a stove or furnace, the combination of a conductor having an opening at its lower portion for the admission of the fuel, a screw conveyer within said conductor rotated by suitable driving mechanism, a conical grate rotally mounted upon the upper open end of the conductor, said open end coinciding with an opening in the apex of the said grate, through which the fuel is fed, the bars of the grate radiating and inclining downwardly from said opening in the grate, and a fixed dead plate having an opening provided with teeth disposed about the lower portion or at the ends of the grate bars, so that said teeth act conjunctively with the ends of said grate bars, together with means for rotating the grate, as set forth.

No. 38,124. Propeller for Ships.

(Appareil de propulsion pour vaisseaux.)

William Henry Wigmore, Philadelphia, Pennsylvania, U.S.A., 16th January, 1892; 5 years.

Claim.—1st. A ship's hull having a cylindrical shaped wheel case B, a propeller or paddle-wheel C, and a mouth or entrance of the casing of a diameter approximately that of the wheel C, and an interior larger diameter to give clearance or space between the casing wall and wheel blades, substantially as hereinbefore set forth and described. 2nd. A ship's hull having an air tight cylindrical casing, the mouth and interior diameter of which are of different concentric diameters, substantially as hereinbefore set forth and described. 3rd. In a ship's hull, an air tight wheel casing B, having a mouth *b*, of one diameter, abutments b^1, b^2, at each end of the said mouth, and an interior diameter larger than that of its mouth, substantially as hereinbefore set forth and described. 4th. In a ship's hull, an air tight wheel casing B, having mouth *b*, and abutments b^1, b^2, at the ends of said mouth, substantially as hereinbefore set forth and described. 5th. In a vessel, an air tight wheel case B, having a mouth *b*, in combination with a paddle-wheel C, and abutments b^1, b^2, at each end of the mouth *b*, substantially as hereinbefore set forth and described.

No. 38,125. Gate. *(Barrière.)*

George M. Shoebottom, Parkhill, Ontario, Canada, 16th January, 1892; 5 years.

Claim.—1st. The gate stanchion constructed of three pieces of suitable length, breadth and thickness, held together by bolts of sufficient length to allow open spaces or divisions of similar width on either side of the middle stanchion piece, substantially as above described. 2nd. The alternate arrangement of the section bars in the open spaces in the gate stanchion as above described, permitting a complete folding of the gate section.

No. 38,126. Water Heater. *(Calorifère à eau.)*

John Duncan Mouat, Detroit Michigan, U.S.A., 16th January, 1892; 5 years.

Claim.—1st. A steam or water heater, the same consisting of the combination, with an open manifold at the base and a chamber extending across the top, of interposed circulating pipes C, extending from the base of the manifold to the top about the combustion chamber, a series of manifolds D, extending from front to rear, arranged across the furnace above the grate, and a series of circulating pipes C^1, extending in a continuous unbroken series from front to rear, and connecting each said manifold with the chamber A^1, at the top of the furnace, substantially as and for the purposes described. 2nd. The combination, with a manifold extending around the base of the furnace, and having an open space within its confines for the grate, of a chamber extending over the entire top of the furnace, circulating pipes C, uniting the manifold with the said chamber, a series of manifolds D, arranged parallel with each other from front to rear of the furnace, and each provided with a series of circulating pipes C^1, extending in a continuous unbroken series from front to rear, and connecting it with the said chamber, and out-flow conduits leading into the manifold at the base, all substantially as and for the purposes described. 3rd. The combination, with the manifold A, and chamber A^1, of the circulating pipes C, C^1, the latter extending in a continous unbroken series across the furnace from front to rear, and manifolds D, each of said manifolds provided at its rear end with a circulating pipe D^1, substantially as and for the purposes described.

No. 38,127. Pipe Joint. *(Joint de tuyau.)*

George Alvin Bidwell, Pittsfield, Massachusetts, U.S.A., 16th January, 1892; 5 years.

Claim.—In combination, the pipe sections, each integrally formed with inclined thin circular flanges, said flanges having holes near their edges adapted to register for the reception of the retaining bolts, the leaden washer 4, of a greater diameter than said flanges, adapted to be compressed between said flanges and reaching under the contiguous shingles, slats, or other roofing, and the retaining bolts having the nuts on their threaded ends passing through said flanges and the leaden washer between the same, as set forth.

No. 38,128. Saw-Mill. *(Scierie.)*

Francois Exavier Nadon, River Desert, Quebec, Canada, 16th January, 1892; 5 years.

Claim.—1st. In a saw-mill, the combination with a vertical saw, in a suitable frame, of the balanced beam P, the slot *p* in one end of said beam, suitably lined with metal plates, the pitman P^2 connecting the other end of the said beam with the said vertical saw, a driven shaft M carrying the wheel N carrying the sliding block *n*, the said block being adapted to slide in the slot *p* and reciprocate the beam P, as the said wheel revolves, substantially as set forth. 2nd. In a saw-mill, the combination with a vertical saw frame, of the beam P, means for reciprocating the said beam, the vertical arm Q, brace rods *q*, the arm 17 carrying the horizontal saw 16, the guide block 14 sliding in the slotted vertical standard 12, the guide arm 15 carried by said standard, the rack 11 held by the distance piece 10 to the said vertical saw frame, substantially as set forth. 3rd. In a saw-mill, the combination with a beam pivoted in the main frame suitably reciprocated, a pitman for imparting vertical motion to the vertical saw, of a braced arm secured at right angles to the said beam for imparting motion to a horizontal saw, substantially as set forth.

No. 38,129. Knotter for Harvester Binders.

(Machine à nouer pour moissonneuses-lieuses.)

The Noxon Bros. Manufacturing Co., Ingersoll, Ontario, Canada, assignees of John F. Seiberling, Akron, Ohio, U. S. A., 16th January, 1892; 5 years.

Claim.—1st. In a grain binder, the knotter shaft made in one piece, in combination with a laterally swinging sleeve like frame D, pivoted on the knotter frame above the knotter actuating shaft, the knotter pinion and gear wheel A, provided with a segmental gear and cam groove on its inner face for swinging said sleeve like frame substantially as described. 2nd. The combination of the cam wheel A^1 and its shaft A, mounted in the frame B, and the knotter supporting sleeve like frame D, with its rocking arm and

cam roller e^3, pivoted above the knotter shaft on the knotter frame said cam wheel being provided with a segmental gear and cam for imparting to said knotter its rotary and vibratory or swinging movement, substantially as described. 3rd. The combination with the knotter shaft F, its pinion f, and delay shoe f^1, mounted on the swinging sleeve like frame D, which is pivoted on the knotter frame, above the knotter operating shaft A, the segmental gear a^2, for revolving the knotter shaft pinion f, the cam track and for swinging the sleeve like frame, the side retaining flange a^3, and the depression of its face at the end of the segment on the knotter operating wheel, to admit of the swinging of the knotter pinion as the frame D, rocks on its pivot as described. 4th. In a grain binder, the knotter shaft F, its supporting sleeve like frame D, and its projecting arm D, adjustably secured to its rocking arm B, for adjusting the angle of the knotter shaft, its cam roller e, and means for rocking arm E, as and for the purpose set forth. 5th. The combination of the knotter mounted in a sleeve like rocking frame, its pinion and delay shoe, the retaining flange a^3, the rotating cord-holder wheel, its pinion h, and delay surfaces h^1, with the cam wheel A^1, and its segmental gear a^1, inclined retaining flange a, and cam groove or track a^3, operating as and for the purposes described. 6th. The notched annuler flanged or crown disk cord-holder h, the peripheral rib h^4, on the outer edge thereof, in combination with the cord-holder shoe, provided with a corresponding groove to receive said rib, said cord-holder wheel and its pinion mounted on a stud secured to the breast plate and revolving in a plane oblique to the main cam and gear wheel, to receive the cord from the binder arm and deliver it to the knotter, substantially as shown and described. 7th. The peripheral rib h^4, on the notched cord-holder and crown disk h^2, in combination with the cord-holder shoe, provided with a corresponding groove to receive said rib, and the cord guide fingers i^3, and i^4, on the inner side of said shoe, as, and for the purposes stated. 8th. The combination with the knotter actuating cam or gear wheel A^1, of the cord-holder wheel and its pinion set to revolve in a plane oblique to the plane of the knotter actuating wheel to receive the cord from the binder arm, and the shoe extension i^5, on the outer end of the cord-holder shoe, to guide the cord and prevent its catching on the rim and dropping in the notch of the cord-holder nearest the knotter, as the cord-holder intermittently rotates, substantially as described. 9th. The cord-holder wheel and the grooved cord-holder shoe I, provided on the end next the knotter, with the projecting horn or extension finger i^2, in combination with the pivoted knotter frame and the knife rigidly secured to and swinging with said frame, substantially as described. 10th. The annular rib h^4, on the cord-holder crown disk, in combination with the longitudinally grooved shoe I, to prevent lateral displacement of the shoe by the strain of the cord substantially as shown and described. 11th. The rotary cord-holder wheel, its toothed pinion and delay cam all cast in one piece and mounted upon a stud secured to a stationary lug located directly upon the breast plate, in combination with the cam wheel having a segmental rack and retaining flange arranged to turn and hold the cord-holder wheel intermittently substantially as described. 12th. In combination with the cam wheel A^1, having the inclined retaining rim a, of the segmental gear a^1, and the inclined and obliquely arranged rotary cord-holder wheel h, arranged on the face side of said cam wheel, substantially as described. 13th. The combination of the knotter and the cord-holder with the breast plate C, and the curved rib or projection c^1, rigid on said breast plate, the latter having its inner end elevated and inclined downwardly to deflect and hold the cord on the knotter as shown and described.

No. 38,130. Knotter for Harvester Binders.

(Machine à nouer pour moissonneuses-lieuses.)

The Noxon Bros. Manufacturing Co., Ingersoll, Ontario, Canada, assignees of John F. Seiberling, Akron, Ohio, U.S.A., 16th January, 1892; 5 years.

Claim.—1st. In a knotter for binding grain, a rotary cord-holder disc, having a series of notches to hold the cord, in combination with a cord clamp or shoe to hold the end of the cord in a disc, said shoe and disc being arranged in respect to each other, so that the notch carrying the end of the cord will pass beyond the clamping face of the shoe at each movement of the disc, substantially as and for the purpose set forth. 2nd. In a grain binding knotter, a rotary cord-holder disc having a series of notches to receive the cord, a cord clamp or shoe to hold the end of the cord on the disc, said disc and shoe being arranged in respect to each other, so that the notch carrying the cord will pass beyond the clamping face of the shoe at each movement of the disc, said disc and shoe being also provided with a groove and a rib engaging each other and extending in the direction of the travel of the disc, to hold the shoe on the disc, substantially as set described. 3rd. The combination with a crown disc cord-holder having a series of cord notches, of a clamp or shoe having a clamping surface bearing against the disc between two of the said notches only, and a guard for preventing the cord from entering the notch, in the disc at the end of the shoe nearest the knife, while the needle lays the cord in the notch at the opposite end of the shoe, whereby the end of the cord extending round the bundle is released in advance of the action of the knife on the cord, substantially as described. 4th. The combination of a crown disc cord-holder having a series of notches to receive the cord, a cord clamp or shoe having a clamping surface bearing against the face of said disc between two of said notches only, said disc and shoe being provided, one with a groove and the other with a retaining flange, and a guard at the inner end of said shoe for preventing the cord from entering the notch nearest the knotter, while the needle lays the cord in the open notch in the opposite side of said disc, substantially as described. 5th. The combination of the crown disc cord-holder having a series of notches, the clamp or shoe E, having a clamping surface extending only between two of the said notches, the guard e^3, at the inner end of said shoe for preventing the cord from entering the notch nearest the knotter, while the needle lays the cord in the open notch in the opposite side of said disc, a supporting spring, the knotter k, and the knife h, substantially as described.

No. 38,131. Temperature Regulator.

(Regulateur de température.)

The Consolidated Car Heating Company, assignees of James Finney McElroy, all of Albany, New York, U.S.A., 16th January, 1892; 5 years.

Claim.—1st. In a temperature regulator, the combination of the frame plate, a lever hinged thereto, connections between the lever and the valve to be operated, an expansion chamber between the frame plate and lever, and an expansible fluid in the expansion chamber, substantially as described. 2nd. In a temperature regulator the combination of the frame plate, a lever hinged thereto, connections between the lever and the valve to be operated, an expansion chamber between the frame plate and lever, formed of two diaphragms and containing an expansive fluid, substantially as described. 3rd. In a temperature regulator, the combination of the frame plate, a lever hinged thereto, connections between the lever and the valve to be operated, an expansion chamber between containing an expansive fluid, a spring against which the expansion acts and means for adjusting the tension of said spring, substantially as described. 4th. In a temperature regulator, the combination of the frame plate, the lever hinged thereto, the diaphragms between, the steam valve adapted to be closed by fluid pressure, the auxiliary valve operated by the expansion chamber, to open and close the supply and exhaust ports alternately, substantially as described. 5th. In a temperature regulator, the combination of a fluid pressure apparatus, a steam supply valve connected with and adapted to be operated by the fluid pressure, an auxiliary valve for controlling the fluid pressure, and a thermostat and connecting levers for operating said auxiliary valve, substantially as described. 6th. In a temperature regulator, the combination of a fluid pressure apparatus, a steam supply valve, connected with and adapted to be operated by the fluid pressure, an auxiliary valve for controlling the fluid pressure, and an exhaust port and a thermostat and connecting levers for operating said auxiliary valve, substantially as described. 7th. In a temperature regulator, the combination of a fluid pressure apparatus, a steam supply valve, connected with and adapted to be operated by said fluid pressure, an auxiliary valve, the thermostat for opening said auxiliary valve against the tension of a spring, which holds the auxiliary valve normall closed, substantially as described. 8th. In a temberature regulator, an expansion chamber formed by two diaphragms secured together at the edges, substantially as described. 9th. In a temperature regulator, an expansion chamber formed by two metallic diaphragms secured together at the edges, and means for adjusting the size of said chamber, substantially as described. 10th. In a temperature regulator, an expansion chamber, a volatile fluid therein, vaporizing at or near 70°, F., and means for increasing or decreasing the size of said chamber, substantially as described. 11th. In a temperature regulator, an expansion chamber formed of two diaphragms secured together at the edges, a frame to which one of said diaphragms is secured, a lever to which the opposite diaphragm is secured, and connecting mechanism to the valve, substantially as described. 12th. In a temperature regulator, the combination of the plate A, lever D hinged thereto, an expansion chamber formed of diaphragms a, b, connected respectively to the frame and lever, the bell crank lever E^1, rod G, spring J^2 and adjusting nut I^2, substantially as described. 13th. In a temperature regulator, the combination of the plate A, lever D hinged thereto, expansion chamber formed of diaphragms a, b, bell crank lever E^1, rod G, spring J^2 clamped at one end to the rod and at the other end to the adjoining nut, substantially as described. 14th. In a temperature regulator, the combination with the expansion chamber and connecting levers, of a spring against which the expansion acts to move the valve, and means for adjusting the tension of said spring, substantially as described.

No. 38,132. Refrigerator Car and Building.

(Char ou bâtiment frigorifiques.)

Joseph Francis Hanrahan, Chicago, Illinois, U.S.A., 20th January, 1892; 5 years.

Claim.—In a refrigerator or like structure, the combination with the sheathing A, B, and timbers C, dividing the wall into dead air spaces, of the layers of paper or like material applied to the sheathings, and the cords or strings interposed between the timbers and the sheathing, and adapted to imbed themselves into the latter and into the paper.

No. 38,133. Lubricating Oil. *(Huile lubrifiante.)*

Robert Rudolf Graf and Harry Fowler Turner, Baltimore, Maryland, U.S.A., 20th January, 1892; 5 years.

Claim.—A fire proof lubricating oil, consisting of a mixture of an ordinary lubricating oil, with sodium tungstate, sulphate of ammonia, phosphate of ammonia, sal-ammonia, and mono-carbonate of soda, in about the proportions substantially as specified.

No. 38,134. Car Ticket Holder.

(Porte-billets de chemin de fer.)

William B. Moore and George B. Willett, both of Moncton, New Brunswick, Canada, 21st January, 1892; 5 years.

Claim.—1st. The combination of the board or stand *a*, and the spring loop B, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the bar *c*, and the spring loop B, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the spiral or coiled springs d^1, d^{11}, and the bar g^1, substantially as and for the purpose hereinbefore set forth.

No. 38,135. Clothes Drier. (*Séchoir à lignes.*)

William Edward Austin, Toronto, Ontario, Canada, 21st January, 1892; 5 years.

Claim.—1st. In a clothes drier, the combination with an extensible support adapted to be held vertically by contact with the floor and ceiling of a room, of the sleeve F, the block by having sockets H, and slots *h*, the wire band K, arms M, adapted to fit in said sockets, the said arms having loops *m*, engaging the said band K, and means for raising and lowering the said block and arms, substantially as set forth. 2nd. In a clothes drier, the combination with a vertical support having a block to which are secured a series of radial arms sliding on said support of the cord N, pulley block O, and pully P, substantially as set forth.

No. 38,136. Milk Receiver. (*Vaisseau à lait.*)

Edward Batters, Toronto, Ontario, Canada, 21st January, 1892; 5 years.

Claim.—1st. A milk receiver comprised of a vessel or milk tin with a flat side secured to the inner side of the door and connecting to the outside by a slanting spout arranged, as and for the purpose specified. 2nd. A milk receiver comprised of a vessel or milk tin with a flat side secured to the inner side of the door, and connecting to the outside by a slanting spout, and having a hinged flap B at the outer end of the spout which is secured in position by the catch or hook *b*, as and for the purpose specified. 3rd. The milk receiver C, secured to the door by the slotted lugs D, and screw eyes F, and having a spout I, closed by the flap B, arranged as and for the purpose specified. 4th. The milk receiver C, secured to the door and having a slanting spout I, connecting it to the door, in combination with the adjustable supplemental spout M, provided with the hinged flap B, arranged as and for the purpose specified. 5th. The milk receiver C, secured to the door as specified, in combination with the spout T, supplemented spout M, and hole *p*, made in the top of the supplemental spout, as and for the purpose specified. 6th. In a milk receiver, the laterally adjustable supplemental spout M, provided with the opening P, to permit the milk to be poured into the spout, in combination with the sieves N and O, arranged as and for the purpose specified. 7th. In a milk receiver, the supplemental spout *t*, *t*, arranged as specified, in combination with the ticket pocket Q, formed in the top of the supplemental spout, and arranged as and for the purpose specified. 8th. In a milk receiver, the supplemental spout M having a lip *n*, secured at its outer end, as and for the purpose specified. 9th in a milk receiver the supplemental spout M, provided with guide-ways *o*, which forms stops as and for the purpose specified. 10th. In a milk receiver, the supplemental spout M, provided with a supplemtal stop *g*, arranged as specified.

No. 38,137. Shingle. (*Bardeau.*)

George Henry Pedlar, Oshawa, Ontario, Canada, 21st January, 1892; 5 years.

Claim—In metallic shingles the mode of fashioning one edge of each shingle with the open loop G and double curve to receive the edge of the next shingle at the opening at *a*, and forming a spring substantially as and for the purposes described.

No.38,138. Safety Trap for Discharge Pipes.

(Trappe de sûreté pour tuyaux de décharge.)

Edward E. Scott, East Saginaw, Michigan, U.S.A., 21st January, 1892; 5 years.

Claim.—1st. A safety trap of circular form, the upper and lower outer edges forming an arc of a small circle with sides convex, the inlet *a*, entering well toward the top of the trap, and the outer edge of the trap from the point of its entry at *r*, to the mouth of the outlet at *m*, being in form and appearance a continuance of the lower part of the discharge pipe, the pipe *o*, extending on the arc of a circle from well toward the bottom of the trap, and being sealed at the top by the ball E, all substantially as and for the intents and purposes hereinbefore described. 2nd. A safety trap of circular form, having its greatest diameter in a vertical plane drawn through the centre thereof from *r* to *m*, its sides convex, forming over the water trap S, the air chamber *d*, the inlet pipe *a*, entering near the top of the trap at *r*, and from thence to the outlet at *m*, the ends and bottom of the trap being in effect a continuance of the lower part of the discharge pipe on the arc of a small circle, the lip *h*, forming the inner part of the pipe *o*, projecting toward the bottom of the trap, its top forming the seat of the ball E, and the outer half thereof forming the lip *l*, and having the ball chamber *g*, with ball E, and oblong mouth *m*, of outlet *b*, all substantially as and for the intents and purposes set forth.

No. 38,139. Treatment of Permanganate.

(Traitement de permanganate.)

James Howarth Parkinson, Manchester, England, 22nd January, 1892; 5 years.

Claim.—1st. The process of forming a spongy or porus mass from permanganate of potash or soda, or lower oxide of the same, which consists in mixing the permanganate into a pasty mass with kaolin, porcelain clay, or similar material, and baking hard and dry in a retort or stove in a partial vacuum, substantially as described. 2nd. A spongy porus mass produced from permanganate of potash or soda, or lower oxide thereof, which can be readily permeated by air produced in the manner, substantially as described.

No. 38,140. Process for Separating or Obtaining Oxygen from Atmospheric Air. *(Procédé pour séparer ou obtenir de l'oxygène de l'air atmosphérique.)*

James Howarth Parkinson, Manchester, England, 22nd January, 1892; 5 years.

Claim.—1st. The process of manufacturing or separating oxygen from atmospheric air, which consists in heating a porus or spongy mass of permanganate, passing purified air therethrough under pressure when oxygen is absorbed, and subsequently drawing off the oxygen under a reduced pressure, substantially as described. 2nd. The process of manufacturing or separating oxygen from atmospheric air, which consists in forcing or drawing purified air under pressure through heated permanganate until the oxygen is absorbed, and then liberating or drawing off the oxygen thus absorbed by reducing the pressure, substantially as described. 3rd. The process of separating oxygen from atmospheric air, consisting in forcing purified air into a retort wherein oxygen is absorbed, and at the same time drawing off oxygen from another retort, and subsequently changing the direction of flow of the air and gas without stopping the apparatus, thereby maintaining a continuous process, substantially as described. 4th. A continuous process for separating oxygen from atmospheric air, which consists in forcing air into one retort while oxygen is being withdrawn from another in connection therewith, and then reversing the apparatus and flow of the air and gas whereby the oxygen is withdrawn from the second retort and the air forced into the first without stopping the apparatus, substantially as described. 5th. In the manufacture or separation of oxygen from atmospheric air, the use of a permanganate in a porous or spongy condition to absorb the oxygen, and subsequently to liberate the same, substantially as described. 6th. In apparatus for separating oxygen from atmospheric air, the combination with a retort of the central diaphragm or division plate F, to divert the current of air through the material in the retort and the flues *f*, to carry the heated products and increase the heating surface, substantially as described. 7th. In apparatus for separating oxygen from atmospheric air, the combination with a retort of a central division plate F, flues *f*, conducting pieces f^1, both inside and outside the flues, substantially as described. 8th. The combination with apparatus for separating oxygen from atmospheric air, of a retort constructed with a central division plate F, and internal flues *f*, substantially as described. 9th. In apparatus for separating oxygen from atmospheric air, the combination with the retorts B and C, and pipe Q, of the valve *t*, and piston t^{10}, on one spindle, spring t^1, and inlet pipe t^{1a}, substantially as described. 10th. In apparatus for separating oxygen from atmospheric air, the combination with the retorts and delivery pipes *r*, r^1, of the two valves U^1, U^{10}, opening in opposite directions, piston u^1, spring u^{10}, pipe u^{1a}, and nozzle u^{1a}, substantially as described. 11th. In apparatus for separating oxygen from atmospheric air, the combination with the retorts and furnace chamber D, of the annular chamber W^1, perforated pipe *w*, placed therein, through which the gaseous fuel passes with a water seal at the bottom, the chamber w^1, retort w^{10}, in which air or other fluid is heated and allowed to expand and contract, and the connecting pipes w^{1a}, which regulates the supply of gaseous fuel in accordance with the heat of the furnace, substantially as described. 12th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe *a*, and outlet pipe a^1, of the retorts B and C, the connecting pipes *b* and *c*, and the three-way valve M, substantially as described. 13th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe *a*, and outlet pipe a^1, of the retorts B and C, connecting pipes *b* and *c*, three-way valve M, cylinder and piston O, and connecting rod *o*, substantially as described. 14th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe *a*, and outlet pipe a^1, of the retorts B, C, connecting pipes *b*, *c*, three-way inlet valve M, cylinder and piston

O, connecting rods o, o^1, valve rod r, stop washers r^1, r^w, connecting rod V, and disc V^1, substantially as described. 15th. In apparatus for separating oxygen from atmospheric air, the combination with the retorts B and C, of the inlet pipes b, c, three-way inlet valve M, and outlet pipes P and Q, substantially as described. 16th. In apparatus for separating oxygen from atmospheric air, the combination with the retorts B, C, inlet pipes b, c, and three-way inlet valve M, of the pipe P, back pressure valves S, S^1, pipe Q, and delivery valves T, T^1, substantially as described. 17th. In apparatus for separating oxygen from atmospheric air, the combination with the retorts B and C, of the outlet pipes P and Q, the valves S, S^1, T, T^1, and air or vacuum pump R, substantially as described. 18th. In apparatus for separating oxygen from atmospheric air, the combination with the retorts B and C, pipes P and Q, and valves S, S^1, T, T^1, of the air or vacuum pump R, pipes r, r^1, and valve U, substantially as described. 19th. In apparatus for separating oxygen from atmospheric air, the combination with the retorts B and C, of the pipe Q, the air or vacuum pump R, pipe r, and valve U, substantially as described. 20th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipes a, a^1, three-way valve M, cylinder and piston and connecting rod o, of the pipes b, c, retorts B and C, and delivery pipes P and Q, substantially as described. 21st. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipes a, a^1, three-way valve M, pipes b and c, cylinder and piston O, piston rod o, valve rod r, and connecting rod V, of the retorts B and C, pipes P and Q, delivery valves S, S^1, T, T^1, air or vacuum pump R, valve U, and pipes r, r^1, substantially as described. 22nd. In apparatus for separating oxygen from atmospheric air, the combination with the retorts A, B and C, of the air purifiers J and K, and three air pumps H, I and R, working together, two forcing in air while the third is withdrawing oxygen, substantially as described. 23rd. In apparatus for separating oxygen from atmospheric air, the combination with retorts A, B and C, and air purifiers J and K, of the pumps H, I, R, and gas heater P^1, substantially as described. 24th. In apparatus for separating oxygen from atmospheric air, the combination with the retorts A, B and C, and air purifiers J and K, of the pumps H, I, R, gas heater P^1, and thermo regulator W, substantially as described. 25th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b and c, three-way valve M, cylinder and piston O, and connecting rod o, of the retorts B and C, outlet pipes P and Q, the valves S, S^1, T, T^1, and air or vacuum pump R, substantially as described. 26th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b and c, three-way valve M, cylinder and piston O, and connecting rod o, of the retorts B and C, pipes P and Q, and valves S, S^1, T, T^1, air or vacuum pump R, pipes r, r^1, and valve U, substantially as described. 27th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b, c, three-way inlet valve M, cylinder and piston O, connecting rods o, o^1, valve rod r, stop washers r^1, r^w, connecting rod V, and disc V^1, of the retorts B and C, outlet pipes P and Q, and valves S, S^1, T, T^1, and air or vacuum pump R, substantially as described. 28th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b, c, three-way inlet valve M, cylinder and piston O, connecting rods o, o^1, valve rod r, stop washers r^1, v^w, connecting rod V, and disc V^1, of the retorts B and C, pipes P and Q, and valves S, S^1, T, T^1, air or vacuum pump R, pipes r, r^1, and valve U, substantially as described. 29th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b and c, three-way valve M, cylinder and piston O, and connecting rod o, of the retorts B and C, pipe Q, the air or vacuum pump R, pipe r, and valve U, substantially as described. 30th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b, c, three-way inlet valve M, cylinder and piston O, connecting rods o, o^1, valve rod r, stop washers r^1, r^w, connecting rod V, and disc V^1, of the retorts B and C, pipe Q, the air or vacuum pump R, pipe r, and valve U, substantially as described. 31st. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b and c, three-way valve M, cylinder and piston O, and connecting rod o, of the retorts B and C, purifiers J and K, and three air pumps, H, I and R, working together, two forcing in air while the third is withdrawing oxygen, substantially as described. 32nd. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b, c, three-way inlet valve M, cylinder and piston O, connecting rods o, o^1, valve rod r, stop washers r^1, r^w, connecting rod V, and disc V^1, of the retorts B and C, purifiers J and K, and three air pumps H, I and R, working together, two forcing in air while the third is withdrawing oxygen, substantially as described. 33rd. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b and c, three-way valve M, cylinder and piston O, and connecting rod o, of the retorts B and C, air purifiers J and K, pumps H, I, R, and gas heater P^1, substantially as described. 34th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b and c, three-way inlet valve M, cylinder and piston O, connecting rods o, o^1, valve rod r, stop washers r^1, r^w, connecting rod V, and disc V^1, of the retorts B and C, air purifiers J and K, pumps H, I, R, and gas heater P^1, substantially as described. 35th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b and c, three-way valve M, cylinder and piston O, and connecting rod o, of the retorts B and C, air purifiers J and K, pumps H, I, R, gas heater P^1, and thermo regulator W, substantially as described. 36th. In apparatus for separating oxygen from atmospheric air, the combination with the retort A, inlet pipe a, and outlet pipe a^1, connecting pipes b, c, three-way inlet valve M, cylinder and piston O, connecting rods o, o^1, valve rod r, stop washers r^1, r^w, connecting rod V, and disc V^1, of the retorts B and C, air purifiers J and K, pumps H, I, R, gas heater P^1, and thermo regulator W, substantially as described.

No. 38,141. Hydrant. (*Borne-fontaine.*)

John Allen Gregg, West Bay City, Michigan, U.S.A., 22nd January, 1892; 5 years.

Claim. The combination, with a hollow vertical column provided on its upper end with an enlarged chamber, a vertical shaft within the chamber and journaled in transverse supports, and having its upper end projecting through the upper end portion of the chamber and provided on its middle portion with a worm thread, the vertical arms m on opposite sides of the shaft and provided on their inner sides with teeth for engaging with the said worm thread, and having their lower ends connected to a head portion, the guides r and p for supporting the said arms, a valve rod secured by its upper end to the said head portion and carrying on its lower end a valve, and a seat for the valve secured within the lower portion of the column, substantially as set forth.

No. 38,142. Brooch or Lace Pin Safety Attachment.

(*Epingle de sûreté.*)

William Wattie, Worcester, Massachusetts, U.S.A., 22nd January, 1892; 5 years.

Claim. 1st. The combination, with a brooch, lace pin or other similar article, of a safety attachment consisting of a chain or cord attached at its upper end to said brooch, and a weight attached to said chain or cord, said safety attachment adapted to extend within the garment of the wearer and be entirely concealed from view, for the purposed, substantially as set forth. 2nd. The combination with a brooch, lace pin or similar article, of the safety attachment, consisting of a weight and a connection therefrom to the brooch, for the purpose stated, substantially as set forth.

No. 38,143. Water and Wind Wheel.

(*Roue hydraulique et à vent.*)

Narcisse Duval and Théodore Bélanger, both of Montreal, Quebec, Canada, 22nd January, 1892; 5 years.

Claim. 1st. A water or wind wheel consisting of a series of plates or floats, hinged to rods secured in the peripheries of two annular discs, the said discs being secured to the top and bottom of a cylinder mounted on a vertical shaft, and stops for holding the said hinged plates when receiving the impact of the current, substantially as set forth. 2nd. A water or wind wheel, the floats of which consist of hinged plates secured to the periphery of a disc or discs, stops for holding the said plates while receiving the impact of the current, the said plates being feathered or turned in the direction of the current, by the current on that side of the wheel turning against the stream or wind, substantially as set forth. 3rd. In a water or wind wheel, the combination with the cylinder B and discs D, E, of the rods F, hinged plates G and stops H, substantially as set forth.

No. 38,144. Lubricating Device.

(*Appareil de graissage.*)

James E. Totman and Martin Crickson, both of La Crosse, Wisconsin, U.S.A., 22nd January, 1892; 5 years.

Claim. 1st. In an attachment for lubricators for steam cylinders, the combination, with a body provided with an enlarged oil conduit and having an inclined surface a portion of its length, of a perforated plug in the conduit beyond the inclined surface, and a steam conduit leading from the steam pipe and communicating with the oil conduit opposite to and discharging upon the inclined surface, substantially as described. 2nd. In an attachment for lubricators for steam cylinders, the combination, with a body having two channels, each communicating the steam supply pipe and one of them with the oil supply, of a perforated plug across one of the channels, said channel being formed with an inclined surface, and an oil chamber above the plug, substantially as described. 3rd. In an attachment for lubricators for steam cylinders, the combination, with a body provided with a channel for the passage of the oil and a second passage for the entrance of steam thereto from the steam pipe, of a plug in the passage, the inner end of which is hollow and provided with perforations, and a perforated plate in the end of the plug, substantially as described. 4th. In an attachment for lubricators for steam cylinders, the combination, with a body provided with two passages, each communicating with the steam supply pipe

and one of them with the oil supply, of a perforated plug across the oil passage beyond the entrance of the steam passage, a perforated tube at the end of the oil passage projecting into the steam supply pipe in the direction of the passage of the steam to the cylinder and a removable plug in the end of the tube, substantially as described.

No. 38,145. Keel Block. (*Cric pour quilles.*)

Warren Henry Carr and James Darius Robinson, both of Bath, Maine, U. S. A., 25th January, 1892; 5 years.

Claim.—1st. The combination of an inclined block, an adjustable block mounted thereon, and a screw for operating said adjustable block; substantially as set forth. 2nd. The combination with a wedge base-block having flanges at its sides, of an adjustable wedge block sliding on the base-block between the flanges and a screw for operating the adjustable block; substantially as described. 3rd. The combination with a wedge block provided with an apertured lug, of a wedge block carrying a screw working in said lug substantially as described. 4th. The combination, with a wedge block provided with the flanges and apertured lug, of a wedge block recessed as described, the screw, collars, and means for revolving said screw, substantially as set forth.

No. 38,146. Clothes Washer. (*Machine à blanchir.*)

Edward Byron Near, Petersburg, Ontario, Canada, Assignee of Garret Seger, Buffalo, New York, U. S. A., 25th January, 1892; 5 years.

Claim.—1st. In clothes washers, the disc A, to which are secured the caps *b*, substantially in the manner and for the purpose set forth. 2nd. In clothes washers, the disc A, to which are secured the caps *b*, and operated by means of the handle C, substantially in the manner and for the purpose set forth.

No. 38,147. Screw Eyes. (*Anneau à vis.*)

The American Screw Company, assignees of Charles D. Rodgers, all of Providence, Rhode Island, U. S. A., 25th January, 1892; 15 years.

Claim.—1st. As an improved article of manufacture, a screw-eye having its shank portion provided with a raised screw-thread whose diameter exceeds that of the wire or unthreaded portion. 2nd. The wire screw-eye, substantially as hereinbefore described, having its shank or stem provided with a raised screw-thread whose diameter is greater than that of the wire itself, and having the opposite end of the wire cut to a concave form transversely and fitting and inclosing a portion of the shank. 3rd. A gimlet-pointed screw-eye made of wire, the shank portion having a rolled or swaged screw-thread formed thereon, and having the end of the wire contiguous to the eye-joint provided with side lips or extensions c^1, in contact with and closing a portion of the shank, substantially as hereinbefore described and for the purpose set forth.

No. 38,148. Sulky Spring Tooth Harrow.

(*Herse à dents élastiques.*)

The J. W. Mann Manufacturing Company, assignees of Thomas G. Cook, all of Brockville, Ontario, Canada, 25th January, 1892; 5 years.

Claim.—1st. The vertically standing C-shaped spring P, the row of the spring facing towards the rear of the machine, and the lower end of said spring secured to the rear of the harrow section, the upper end of said spring terminating above an arm L, secured to a rock shaft J, journaled to the sulky frame, and the terminations of said spring and arm connected by a chain O, for forcing the harrow teeth into the ground, as set forth. 2nd. The combination, with a flexible harrow section, of a rearwardly attached C-shaped spring P, a rock shaft J, journaled in the sulky frame and having an arm L, and a chain or chains O, T, connecting said arm with the upper and lower ends of said springs, as set forth.

No. 38,149. Pulley. (*Ponlie.*)

Isaac N. Kendall, New Westminister, British Columbia, Canada, 25th January, 1892; 5 years.

Claim.—1st. The combination of the grooved pulley and a series of levers fulcrumed upon the face of the pulley, and having the outer ends thereof provided with grooves opposite the groove of the pulley and an adjustable non-rotating sleeve provided at its inner end with a flange having a track for engaging the inner ends of the levers, substantially as specified. 2nd. The combination, with the pulley, the side of which is grooved and the series of clamping levers fulcrumed upon the face of the pulley and grooved near their outer ends, of a sleeve mounted for longitudinal adjustment upon the same and a flange provided with a track for operating against the inner ends of the levers and mounted upon said sleeve, substantially as specified. 3rd. The combination, with the pulley, its shaft, the clamping levers, and means for operating the same, of the bearing for one end of the shaft, a set screw supported in the bearing and bearing against the end of the shaft a bushing encircling the set screws and provided upon its inner end with a flange, and a rubber or other yielding packing encircling the bushing and interposed between the same and the end of the bearing, substantially as specified. 4th. The combination, with pulley, shell, the series of pairs of bearing lugs secured to the face of the same, the series of levers pivoted between the bearing ears, the grooved lugs 19 and 20 located between the levers the bearing 3 for the end of the shaft, the shaft 1, the tube or sleeve 11 having the flange 12, the sliding sleeve 21 splined upon the sleeve 11 and provided with the rear flange 22 and the front flange 26 having the track 27 for operating the levers, the bolts 24 connecting the rear flanges of the two sleeves, the nuts mounted upon the bolts between the flanges, the headed bushing 6 located in the rear end of the bearing 2, the adjusting screw threaded in the bushing terminating at its inner end against the shaft and at its outer end provided with a hand-wheel, and the rubber packing 8, interposed between the head of the bushing and the bearing, substantially as specified. 5th. The combination, with the pulley provided with a bearing ear secured thereto, of a clamping lever provided upon one face with a recess into which the bearing ear projects, a pin passing through said lever and the bearing ear, and an adjustable bolt carried by the lever near its inner end and adapted to bear upon the side of the pulley, as and for the purpose specified. 6th. The combination, with the pulley provided with ear secured thereto by means of a pin or bolt, and an elastic washer interposed between the pulley and the head of said securing bolt, of a clamping lever pivotally connected to said bearing ear, as and for the purpose specified.

No. 38,150. Circular Knitting Machine.

(*Machine à tricot circulaire.*)

The S. B. Wilkins Co., Rockford, Illinois, assignees of John R. Bridges, Findley, Ohio, U.S.A., 25th January, 1892; 5 years.

Claim.—1st. The combination of the needle-bed and its needles, some of which are fashioning-needles, the needle-operating cams, the reciprocating jacks connected to the needles and constructed to engage with said cams, supporting-jack for the reciprocating jacks of the fashioning-needles, an expanding and contracting cam and means whereby said cam is caused to act upon the supporting-jacks of the fashioning-needles so as to move the reciprocating jacks into and out of engagement with the needle-operating cams, all substantially as specified. 2nd. The combination of the needle-bed and its needles, some of which are fashioning-needles, the needle-operating cams, the reciprocating jack connected to the needles and movable into and out of engagement with said cams, supporting-jacks for the reciprocating jacks of the fashioning-needles, pins acting on said supporting-jacks, and an expanding and contracting cam acting on said pins, all substantially as specified. 3rd. The combination of the needle-bed and its needles, the needle-actuating cams, jacks connected to said needles and movable into and out of engagement with the cams, an expanding and contracting cam, and means whereby individual jacks may be acted upon thereby, a ring whereby a number of jacks may be acted upon simultaneously, and means whereby said ring is actuated by said expanding and contracting cam, all substantially as specified. 4th. The combination of the needle-bed and its needles, the needle-operating cams, the reciprocating jacks movable into and out of engagement with said cams, the supporting jacks, the lifting and ring pins, and the jack-ring with an expanding and contracting cam adapted to actuate said lifting and ring pins, whereby some of the needles may be simultaneously and others singly withdrawn from or brought into action, all substantially as specified. 5th. The combination, with the cam-ring B, having the sectional ring I rigidly secured thereto, and the main or driving belt L^1 of a series of tight and loose pulleys L^2 L^5 and L^6, strait belt L^7, cross-belt L^{10}, pulley L^8 mechanism to communicate motion from said pulley L^8 to said cam-ring B, a swinging tappet adapted to be operated by said sectional ring, a belt-shifter and connecting mechanism intermediate of said tappet and belt shifter, all constructed and arranged substantially as shown and described. 6th. The combination of a radialy arranged series of of needles a cam-ring adapted to reciprocate the same, a vertically arranged series of hook-jacks provided each with a hook, a hook-cam cylinder adapted to actuate said hook-jacks in the direction of their length, and mechanism to impart motion to said cam-ring and and hook-cam cylinder, the said several parts being constructed and arranged to operate substantially as set forth. 7th. The combination with the hook-jacks and cam-ring, of an adjustable plate secured to said ring and constructed and arranged substantially as shown and described, whereby the length of the loops and the texture of the fabric may be regulated and determined, as set forth. 8th. The combination with the cam-ring and the operating-cams thereof, of a spring provided with a lobe located upon each side of the said operating cams and arranged to ride over and upon the needle-jacks, as shown and described, whereby all unsupported jacks are forced out of operative connection connection with said cams, as set forth.

No. 38,151. Process of and Apparatus for Manufacturing Gas. (*Procédé et appareil pour la fabrication du gaz.*)

Burdett Loomis, Hartford, Connecticut, U.S.A., 25th January, 1892; 5 years.

Claim.—1st. A gas generator having a closed circumferential hearth and a central grate opening in combination with an exhauster connecting by suitable flues with the central grate opening, for the purpose described. 2nd. A downdraft generator having an air supply pipe connecting with its top, and a closed circumferential hearth having a central opening and an ash-pit, in combination with

the exhauster connecting with such central ash-pit, whereby the air-draft and gaseous products are drawn away from the side walls of the furnace and more evenly through the body of fuel, for the purpose described. 3rd. A gas generator having an air supply pipe or opening at its top above the fuel and an outlet pipe leading from its bottom, in combination with a cooler connecting with such outlet pipe and an exhauster connecting with the cooler for drawing air down into the fuel and the resulting gases out from the bottom of the generator and through the cooler, as and for the purpose described. 4th. In combination with the ash-pit of a furnace having a contracted grate opening, the wide central flue placed below such ash-pit, and division walls constructed in such flue for supporting the floor of the ash-pit and forming steam heating surfaces. 5th. A downdraft gas generating furnace having supply pipes for steam, oil and powdered fuel, connecting with the fuel chamber, and a gas outlet pipe leading from its base, in combination with a cooler and exhauster connecting with such gas outlet pipe, a pipe J, having valve *j*, leading from the exhauster, a smoke escape pipe Y, having blow-off valve *y*, and a pipe K, having valve *k*, both connecting with pipe J, between its valve *j* and the exhauster, substantially as and for the purpose described. 6th. The process of generating heating or fuel gas, which consists of drawing both air and steam down into and through a body of ignited fuel, thereby causing combustion of the fuel with formation of producer-gas and decomposition of the steam with formation of water-gas, causing vapors distilled from the upper layers of coal to pass into the heated fuel below for conversion into fixed gas, and drawing the resulting mixed gases down through the fuel and out at the bottom of the generator, whereby the fuel may be supplied and arranged in the generator while the exhauster is in operation without any danger and delay caused by flame and smoke being blown into the operator's face, and also whereby the coal may be better coked and converted into gas. 7th. The process of generating heating or fuel gas, which consists in admitting air to the top of a bed of ignited fuel for causing combustion thereof, and at the same time admitting steam into the more highly heated fuel below the top, and drawing both the air and steam down into and through the heated fuel, thereby causing combustion of the fuel with formation of producer-gas and decomposition of the steam with formation of water-gas, causing vapors distilled from the upper layers of coal to pass into the heated fuel below for conversion into fixed gas, and drawing the resulting mixed gases down through the fuel and out at the bottom of the generator.

No. 38,152. Machine for Cutting Pipes.

(*Machine pour couper les tuyaux en fonte.*)

Alcide Charest, Montreal, Quebec, Canada, 25th January, 1892; 5 years.

Resumé.—1o. La combinaison des quatre rouleaux coupeurs E, E E E et des montants A, A, tel que décrit. 2o. La combinaison de la vis D, et de l'échelle c, au moyen des quelles la pression des rouleaux est faite sur le tuyau, tel que ci-dessus décrit et pour les fins indiquées.

No. 38,153. Boot and Shoe. (*Chaussure*)

George Valiant, Toronto, Ontario, Canada, 26th January, 1892; 5 years.

Claim.—1st. A boot or shoe having an inner sole provided with perforations *a*, cross grooves *c*, surrounding groove *b*, and duct or passage *d*, and a plain ungrooved outer sole applied directly to the inner sole.

No. 38,154. Machine for Turning Moulding.

(*Machine à tourner les moulures.*)

James N. Stout, New York, assignee of Julius F. Gebhardt, both in State of Brooklyn, New York, U. S. A., 26th January, 1892; 5 years.

Claim.—1st. In a lathe attachment for turning mouldings, the combination, with a frame, of a swinging frame in the same, a series of rock-shafts in said swinging frame cutters on the rock-shafts and rods uniting the several rock-shafts with the common handle substantially as set forth. 2nd. The combination, with a frame, of a swinging frame in the same, a spring for pressing said frame upward, a cam for pressing it downward, a series of rock-shafts in said frame and cutters on the rock-shafts and rods uniting the several rock-shafts with a common handle substantially as set forth. 3rd. The combination, with a frame, of a swinging frame in the same, vertically adjustable independent bearing pieces on the swinging frame, a rock-shaft in each pair of bearing pieces, cutters on the rock-shafts and rods uniting the several rock-shafts with a common handle, substantially as set forth. 4th. The combination, with a frame, of a series of cutters, a rock-shaft carrying two arms a short distance from each other, each arm being provided with a marking or guage blade, and mechanism for manipulating said arms, substantially as set forth. 5th. The combination, with a frame, of a swinging frame in the same, rocking shafts having cutters mounted in said swinging frame a cam lever acting on the swinging frame, a shaft provided with two arms a short distance from each other, marking blades on said arms one of said arms being connected with the cam shaft. substantially as set forth. 6th. The combination, with a frame, of a slotted guide sleeve in the same, a swinging frame mounted in the above mentioned frame, rocking shafts in the swinging frame and cutters on said rocking shafts, substantially as set forth. 7th. The combination, with a frame of a swinging frame in the same, rocking shafts in said swinging frame cutters on the rocking shafts, a rod on each shaft the free ends of said rods being slotted, and a common handle piece connected with the slotted ends of said bars, substantially as set forth,

No. 38,155. Sash Balance and Lock.

(*Arrête-croisée.*)

Benjamin Marshall, San Francisco, California, U.S.A., 26th January, 1892; 5 years.

Claim.—A sash-raising device, consisting of a sash having its rail provided with a bore extending longitudinally within the same, a rod situated within said bore and provided at one end with a pinion a spring, encircling said rod and adapted to wind as the sash is lowered, a rack on the window casing engaged by said pinion, and a catch seated in the sash and adapted to engage the teeth of the pinion, substantially as described.

No. 38,156. Roofing Fabric.

(*Materiaux pour toitures.*)

Henry Ward Johns, New York, N.Y., U.S.A., 26th January, 1892; 15 years.

Claim.—1st. A compound sheet comprising essentially a plurality of separate sheets of different materials and of average equal widths, one of them being canvas having a selvage edge, any excess in width and projecting edge of the canvas being made straight and equal in width to the other sheets by turning in the edges thereof and cementing material between the several sheets, substantially as set forth. 2nd. A compound sheet comprising essentially a plurality of separate sheets, having cementing material between them, one or both the edges of either of said sheets being folded over upon itself, thus thickening the edge of the sheet and interposing a rib between it and the next sheet, whereby the outflowing of the cementing material is obstructed, substantially as set forth.

No. 38,157. Manufacture of Files and Rasps.

(*Fabrication de limes et râpes.*)

Alfred Weed, Tarrytown, New York, N.Y., U.S.A., 26th January, 1892; 5 years.

Claim.—1st. The within described improvement in the art of cutting files, the same consisting in bringing the cutting tool at an angle against the face of the blank and then forcing the tool into the blank and raising the tooth by forcing downward the heel of the tool, swinging the latter upon its cutting point or edge as a centre, substantially as set forth. 2nd. The combination in a file cutting machine of a support for the blank, a head reciprocating substantially at right angles to the blank and a cutting tool arranged at an angle said head and blank and pivotally connected to swing at its upper end and about its cutting edge or point as a centre when the head descends, substantially as set forth. 3rd. The combination with a reciprocating head of a tool pivoted to the head at its upper end and an inclined arm 10, and spring 13, substantially as set forth. 4th. The combination with a reciprocating head, of a carrier pivoted at one end to swing horizontally on said end and an inclined tool pivoted to the free end of the carrier, substantially as described. 5th. The combination of the reciprocating head, carrier, shaft and appliances for vibrating the shaft automatically, substantially as set forth. 6th. The combination of the reciprocating head, shaft 4, carrier supporting the cutting tool pinion, and rack and wheel 23, connected to reciprocate the rack, and means for turning the wheel with a step by step movement, substantially as described. 7th. The combination of the reciprocating head carrying the cutter tool, the blank carrier 15 and pivoted bed 18, substantially as set forth. 8th. The combination in a machine for cutting files and rasps, of a bed for supporting the blank, a tool having a beveled end, a bearing or rest for the back of the tool and means for reciprocating the tool upon said bearing, substantially as set forth. 9th. The combination of the bed for supporting a blank of a tool, a carrier for supporting the tool provided with a strap for receiving an eccentric and a cross piece 20, arranged to constitute a bearing for the tool adjacent to the blank, substantially as described. 10th. The combination of the cutting tool of a file or rasp cutter, a bed supporting the blank, means for automatically swinging the bed a single step on the upward movement of the tool, substantially as set forth. 11th. The combination of the tool, pivoted bed, a wheel having teeth for engaging the tooth of the bed, means for turning said wheel intermittently and a spring for swinging the bed in one direction, substantially as set forth. 12th. The combination of the bed and its tooth, the toothed wheel provided with a rachet, an arm 27, carrying a pawl engaging said ratchet and a vibrating arm 31, engaging a pin on the arm 27, substantially as set forth. 13th. The bed provided with a slide for receiving the blank, a screw for feeding the slide, and devices arranged to turn the tool as the bed swings in one direction, substantially as set forth. 14th. The combination of the swinging bed, slide and feed screw, of a ratchet on the end of the screw and a part carried by the base for engaging the ratchet, substantially as set forth.

No. 38,158. Flushing Siphon. (*Siphon de réservoir.*)

Henry R. Ruttan, Winnipeg, Manitoba, Canada, 26th January, 1892; 5 years.

Claim.—The combination of the siphon C, the valve G, double lever N, N, float E, and weight H, connecting rod K, and movable keeper I, substantially for the purpose and as above set forth.

No. 38,159. Neck-Yoke. (*Volée d'avant.*)

Merrell Gadberry, Leon, Kansas, U.S.A., 27th January, 1892; 5 years.

Claim.—1st. The combination of the neck-yoke, the bottom plate secured to the neck-yoke and provided with a pivot depending from the lower face of the neck-yoke, the pole tip having a socket and provided with an annular shoulder and oppositely-disposed grooves, and the coupling-block arranged on the pivot and located below the neck-yoke and provided with a stem arranged id the socket and having opposite disposed lugs, whereby said neck-yoke will have a vertical swing at the end of the pole-tip and a horizontal oscillation or swing above the pole-tip, substantially as described. 2nd. The combination of the neck-yoke provided with a depending pivot, the coupling block arranged on the pivot and located below the neck-yoke to have a free horizontal oscillation and provided with a stem, a pole-tip arranged in the same plane as the coupling-block and having a socket to receive the stem, whereby the neck-yoke is also permitted a vertical oscillation or swing, and the flange 18 on the block to fit over the end of the pole-tip, substantially as described.

No. 38,160. Fish Hook. (*Hameçon.*)

John Thomas Eichelberger, St. Louis, Missouri, U.S.A., 27th January, 1892; 5 years.

Claim.—1st. The hook A, the upper end of its shank turned horizontally and having an eye a^2, combined with the ring D, having headed pin d engaging in said eye a^2, as and for the purposes set forth. 2nd. The fish hook having the eye turned, as described, the ring D, having the headed pin d, the line, and the float, substantially as described.

No. 38,161. Hydraulic Stump Extractor.

(*Arrache-souche hydraulique.*)

Alfred Taylor,, San Francisco, California, U. S. A., 27th January, 1892; 5 years.

Claim.—1st. A stump extractor comprising a portable frame, a cylinder carried by the frame, a piston mounted movably in the cylinder and adapted to carry a lifting cable, and a pump carried by the frame and connecting with the lifting cylinder, substantially as shown and described. 2nd. A stump extractor comprising a main frame provided with crank axles and mounted on wheels, means for holding the frame in a raised or lowered position, a lifting cylinder mounted in the upper portion of the frame, a vertically movable piston carried by the cylinder and adapted to carry a lifting cable, and a pump carried by the frame and connecting with the lifting cylinder, substantially as shown and described. 3rd. A stump extractor comprising a main frame having a lifting cylinder at its upper end, a piston held to move vertically in the cylinder and adapted to carry a lifting cable, a water tank carried by the frame, a pump mounted on the tank and connected by a pipe with the lifting cylinder, and a valve arranged in the pipe, substantially as shown and described. 4th. A stump extractor comprising a tripod having its legs provided with shoes at their lower ends, crank axles mounted on the legs of the tripod and also in suitable wheels, means for fixing the position of the cranks, a lifting cylinder held in a vertical position at the upper end of the tripod, a movable piston mounted in the cylinder and adapted to carry a lifting cable, and a pump carried by the tripod, said pump connecting with a source of water supply and with a lifting cylinder, substantially as shown and described. 5th. In a stump extractor, the combination with a tripod, of a cylinder having sockets thereon to fit the upper ends of the tripod legs, a moveable piston mounted in the cylinder and adapted to carry a lifting cable, and a pump connected with the cylinder and with the source of water supply, substantially as shown and described. 6th. The combination with the main tripod or frame, of a cylinder carried thereby, a vertically movable piston mounted in the cylinder, said piston having a grooved head adapted to carry a cable, and a pump carried by the tripod or frame and connected with the cylinder and with the source of water supply, substantially as shown and described. 7th. In a stump extractor, the combination with the tripod having lifting mechanism thereon, of crank axles pivoted to the legs of the tripod and mounted in wheels, and means for fixing the position of the cranks in relation to the tripod and wheels, substantially as shown and described. 8th. In a stump extractor, the combination with a lifting chain, of a grip having a central bend to fit a stump, and having end keepers to receive the chain, substantially as shown and described. 9th. The combination with a pump cylinder having a suitable inlet and discharge, of a hollow piston mounted in the cylinder, a smaller piston mounted in the bore of the larger piston, and means for attaching and detaching the two pistons, substantially as shown and described. 10th. A pump comprising two parallel cylinders having suitable inlets and outlets, hollow main pistons held to move vertically in the cylinder, smaller pistons mounted longitudinally in the main pistons, means for securing the main pistons and the smaller pistons together, and a handle pivoted between the two smaller pistons and extending through recesses in the tops of the said pistons, substantially as shown and described.

No. 38,162. Device for Tapping Stay Bolt Holes.

(*Appareil pour tarauder les trous de boulon d'entretoise.*)

James Thomas Connelly, Milton, Pennsylvania, U.S.A., 27th January, 1892; 5 years.

Claim.—1st. An internally threaded screw tap, substantially as and for the purpose set forth. 2nd. A screw tap having a central longitudinal bore threaded its entire length, substantially as and for the purpose set forth. 3rd. The combination, with a threaded spindle, of a screw tap having a central bore and internally threaded, the internally threaded screw tap being adapted to work upon the screw threaded spindle, substantially as and for the purpose set forth. 4th. The combination, with a spindle threaded its entire length, of a screw tap provided with a central longitudinal bore and internally threaded its entire length, said internally threaded tap being adapted to receive the threaded spindle and work upon the same, substantially as and for the purpose set forth. 5th. In a device for tapping long distance stay bolt holes, the combination, with a threaded spindle, of screw taps oppositely mounted upon the spindle and having a screw threaded bore receiving the same, substantially as and for the purpose set forth. 6th. In a device for tapping long distance stay bolt holes, the combination, with a spindle screw threaded throughout its length, of screw taps oppositely mounted upon the spindle and having a central longitudinal bore screw threaded throughout its length and receiving the corresponding spindle, substantially as and for the purpose set forth. 7th. In a device for tapping long distance stay bolt holes, the combination, with the spindle threaded throughout its length, of screw taps oppositely mounted upon the ends of the spindle and provided with a central longitudinal bore screw threaded throughout its length, the threads of the spindle having the same pitch as the taps, substantially as and for the purpose set forth. 8th. The combination, with a threaded spindle, of an internally and externally threaded screw tap, substantially as and for the purpose set forth.

No. 38,163. Boot and Shoe Counter.

(*Contrefort de chaussure.*)

James Ferguson Sharpe, London, Ontario, Canada, 27th January, 1892; 5 years.

Claim.—A counter B, secured in position by a row of stitches a, substantially as and for the purpose specified.

No. 38,164. Flange for Loom Beams and Warper Beams. (*Rebord pour métiers à tisser.*)

William Stafford, Lancaster, Ontario, Canada, 27th January, 1892; 5 years.

Claim.—1st. The flange a in combination with rim c, without ribs d, d, and loose centre or boss b, substantially as and for the purpose hereinbefore set forth. 2nd. The flange a in combination with rim c, and loose centre or boss b, without ribs d, substantially as and for the purpose hereinbefore set forth. 3rd. The flange a in combination with rim c, and ribs d, d, and without loose centre or boss b, substantially as and for the purpose hereinbefore set forth. 4th. The flange a in combination with rim c, ribs d, d, and loose centre or boss b, substantially as and for the purpose hereinbefore set forth. 5th. The combination of the flange a, rim c, ribs d, fast center or boss f and rim g, substantially as and for the purpose hereinbefore set forth. 6th. The combination of the flange a, rim c, fast center or boss f, without ribs d, substantially as and for the purpose hereinbefore set forth.

No. 38,165. Plough. (*Charrue.*)

Samuel Irwin, Markdale, and Alexander G. Hunter, Dundalk, both in Ontario, Canada, 27th January, 1892; 5 years.

Claim.—1st. A plough provided with a roller journalled in suitable bearings located between the landside and mould board, interposed between the shear and heel, and extending below the bottom of the landside and mould board, substantially as set forth. 2nd. In a plough, a roller journalled in suitable bearings, located between the landside and mould board, interposed between the shear and heel, and projecting below the bottom of the landside and mould board, in combination with a permanent scraper to clean the roller during the movement of the machine, substantially as described. 3rd. A plough provided with a roller journalled in suitable bearings located between the landside and the mould board, interposed between the heel and shear, said roller projecting below the bottom of the landside and mould board, said bearings formed in rods secured to the plough handles, substantially as described.

No. 38,166. Car Axle Box Lid.

(*Couvercle de boite à graisse.*)

Robert Soutter and Fred. A. Haines, both of Chicago, Illinois, U. S.A., 27th January, 1892; 5 years.

Claim.—1st. In a car axle box, a lid pivoted thereto at one end, and adapted to swing edgewise about said pivot to uncover the box,

a spring which is connected to the lid at one end only, at a point remote from the pivoted end of the lid toward the other end, said spring extending from its attachment to the lid toward and overhanging the pivoted end of the latter, and the pivot bolt passing through said overhanging end and adapted to flex the spring toward the lid to give it tension, substantially as set forth. 2nd. In a car axle box, a lid pivoted thereto at one end and adapted to swing edgewise about its pivot to uncover the box, the pivot bolt and a spring which is retained by the pivot bolt and bears and is laterally stopped on the lid at a point remote from the pivoted and toward the other end, substantially as set forth. 3rd. In a car axle box, a lid pivoted at one end to the box, and adapted to swing edgewise on its pivot to uncover the box, said lid having a transverse slot at a point remote from its pivoted end, and the flat bar spring adapted to be inserted through said slot from the upper side, and upon being tilted downward toward the pivoted end to bear at one side of the slot upon the under side of the lid, and at the other side of the slot upon the upper side of the lid, said spring when thus tilted extending toward and overhanging the pivoted end of the lid, and the pivot bolt passing through said overhanging end and adapted upon being tightened to flex the spring toward the lid, and by the tension thus produced to render the spring substantially rigid with the lid, but capable of being forced slightly longitudinally with respect thereto, substantially as set forth.

No. 38,167. Calendar. (*Calendrier.*)

David Ross, London, England, 30th January, 1892; 5 years.

Claim.—1st. A calendar rendered serviceable for an ordinary year by bringing the figure or figures denoting the century into a given relation with the figures denoting the year of the century, and thereby bringing the names of the months and the figures denoting the days of the month into such relation with the letters denoting the days of the week as to constitute the calendar for that year. 2nd. A calendar rendered serviceable for a leap year by bringing the figure or figures denoting the century into a given relation with one set of year figures for January and February and with a duplicate set for the remainder of the year, substantially as described. 3rd. A calendar rendered serviceable for a leap year by bringing the figure or figures denoting the century into a given relation with one set of year figures for January and February, and with a duplicate set for the remainder of the year, and thereby bringing the names of the months and the figures denoting the days of the month into such relation with the letters denoting the days of the week as to constitute the calendar for these respective periods of the given leap year. 4th. A calendar rendered serviceable for an ordinary year by bringing the century figures of figures into a given relation with the figures denoting the year of the century, and for a leap year by bringing the century figure or figures into relation with one set of year figures for January and February, and with another set for the remainder of the year, substantially as described. 5th. In a calendar, the combination with one set of century figures serving for the old style, of another set of century figures for the new style, substantially as described. 6th. In a calendar, the particular arrangement of the new style century figures whereby the three exceptional years in every four hundred which are not leap years, although multiples of 4, are provided for, substantially as described and illustrated in the accompanying drawings. 7th. In an adjustable calendar, the duplication of the leap-year "year figures," substantially as described and illustrated in the accompanying drawings. 8th. In a calendar, the old and new style table A, substantially as described and illustrated in the accompanying drawings, for the old style the century figures being consecutive from 0 to 6, in the second 7 to 13, and in the third 14 to 20; for the new style in the fourth line the figures 15 and 16 are placed in the fifth and sixth columns, and in the fifth line 17, 18, 19 and 20 are placed in the first, third, fifth and sixth columns respectively. 9th. In a calendar, the combination on one sheet of tables B and E, with the tables A, C and D on another sheet, the whole combined and arranged substantially as described and illustrated in the accompanying drawings. 10th. In a circular calendar, the combination on one sheet of tables A and E, with the tables B, C and D on another sheet, the whole combined and arranged, substantially as described and illustrated in the accompanying drawings.

No. 38,168. Bedstead. (*Couchette.*)

James Massie, Toronto, Ontario, Canada, 30th January, 1892; 5 years.

Claim.—1st. The combination, with the stiff frame of a bedstead, of a wire mattress secured to both sides and both ends of said bedstead frame, substantially as and for the purpose specified. 2nd. A wire mattress surrounded by and secured to a light frame, connected by a series of loops to the sides and ends of a rigid bedstead frame, substantially as and for the purpose specified. 3rd. A wire mattress surrounded by and secured to a light frame, which is connected by a series of loops to both sides and one end of the rigid bedstead frame, in combination with an end piece fastened to one end of the mattress, and adjustably connected to one end of the rigid bedstead frame, substantially as and for the purpose specified. 4th. A woven wire pillow E, secured to the end pieces F, which are supported by arms hinged to the end pieces and to the frame A, substantially as and for the purpose specified. 5th. A bedstead frame composed of two angularly shaped end pieces, each piece having a corner piece made integral with and at right angles to it, the said corner pieces being shaped to receive and hold the side pieces of the bedstead frame, substantially as and for the purpose specified. 6th. A bracket piece P, having a dovetail side designed to fit into a dovetail recess made in the corner pieces *a*, and a collar *b*, made at the base of the said dovetail, in combination with the collar P, substantially as and for the purpose specified.

No. 38,169. Stone Cutting Machine.
(*Machine à tailler la pierre.*)

David Rettiger, Strong City, Kansas, U.S.A., 30th January, 1892; 5 years.

Claim.—1st. The combination, with a reciprocating car, a cog and gear mechanism for operating it, and a drive shaft for operating such mechanism, said shaft provided with a friction pulley G, of a set of friction pulleys H, H', arranged to engage the opposite sides of the pulley G and to be alternately thrown into or out of engagement with said pulleys, lever mechanism for forcing such wheels into frictional contact with the wheel G and arranged relatively, whereby the said pulley G is caused to slip and rebound slightly when the chisels strike flinty portions of the stone and great resistance is met, substantially as and for the purpose described. 2nd. The combination of the reciprocating car, rack and gear mechanism for operating it, a series of cylinders transversely of the car carrying chisels arranged tangentially, sprocket wheels on the shaft of the cylinders, the main drive shaft, chain connections between the shafts and sprockets, the tighteners *d* engaging said chains, and the friction pulley devices for operating the rack an gear mechanism of the car, all arranged substantially as shown and described. 3rd. The combination of the cutting cylinders having their shafts provided with sprocket wheels, the drive shaft, the chain connections between the drive shaft and sprocket wheels, and the tighteners *d*, having toothed wheels pressing against the said chain connections, all substantially as and for the purposes set forth.

No. 38,170. Armature for Dynamo Electric Machines and Motors. (*Armature pour machines dynamo-électriques et moteurs.*)

The Reliance Electric Manufacturing Company, Waterford, Ontario, Canada, assignees of Frank Banson Rae, Detroit, Michigan, U.S.A., 30th January, 1892; 5 years.

Claim.—1st. An armature consisting of a shaft having recesses in which are secured the non-magnetic splines, disks, having notches fitting said splines, end plates also having notches, fitting the splines, and nuts mounted on the shaft and fitting recesses in the end plates, substantially as described. 2nd. An armature, consisting of a shaft having longitudinal recesses, splines of non-conducting material secured in said recesses, disks of magnetic material mounted on the splines, end plates of non-magnetic material also mounted on the splines, and nuts screwed upon the shaft and fitting recesses in the end plates, substantially as described.

No. 38,171. Accompanying Methods for Musical Instruments having Key Boards. (*Méthode d'accompagnement pour instruments de musique à clavier.*)

George Philippe Omer Hereux, Yamachiche, Quebec, Canada, 30th January, 1892; 5 years.

Claim.—A new accompanying method for musical instruments having key boards, composed of the rod A, having any suitable number of sides on to which are marked different accompaniments by means of points *c*, *c*, *c*, etc., and one of its ends provided with a disk *a*, having the key of the rod A marked thereon.

No. 38,172. Rod and Pipe Cutter.
(*Decoupoir à barre et tuyau.*)

Henry Diebel, Sauk Centre, Minnesota, U.S.A., 30th January, 1892; 5 years.

Claim.—1st. In a cutting and threading tool, the combination with the stock having central openings *a*, and having grooves *e* and *i* on diametrically opposite sides of the said opening *a*, of the cutter fitted in one groove, means for adjusting the cutter in the said groove, and the handle secured in the other groove and having its inner end flush with the said opening *a* and adopted to receive the thrust or working pressure, substantially as set forth. 2nd. A cutting and threading tool comprising the stock having opening *a*, grooves *e* an[illegible] *i* on diametrically opposite sides of the said opening, and having recess H in its rear side, the guide section having its flanged end inserted in the said recess H and held therein by plates *h*, the cutter B in the groove *e*, the set screw C for adjusting cutter B, and the handle I, secured in the groove *i* and having its inner end extended flush with opening *a* and adapted to receive the thrust, substantially as specified.

No. 38,173. Swinging Chair. (*Chaise oscillante.*)

Julius M. Eller, Cleburne, Texas, U.S.A., 30th January, 1892; 5 years.

Claim.—1st. The combination with a chair of the cross bar secured to the forward under side of the seat, the suspending ropes secured at one end to the opposite ends of said cross bars the rope secured to the rear side of the seat, and the propulsioned spring secured to the opposite end of said rope, substantially as specified. 2nd. The combination with a chair seat of suspending ropes attached at their lower ends to the opposite forward sides of the seat, a rope secured to the rear side of the seat, and a spiral or coiled spring secured to the opposite end of said rope, substantially as specified.

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

2432. WILLIAM STAHLSCHMIDT & COMPANY (assignees), 2nd five years of No. 26,612, from the 6th day of May, 1892. Improvements in Opera Chairs, 5th January, 1892.

2433. GEO. P. D. LOWRIE, 2nd five years of No. 25,693, from the 11th day of January, 1892. Improvements in Cylindrical Wooden Packages, 9th January, 1892.

2434. JAMES CRUICKSHANK, 3rd five years of No. 13,975, from the 11th day of January, 1892. Improvements on Waggons, 9th January, 1892.

2435. WILLIAM B. DUNNING, 2nd five years of No. 25,708, from the 12th day of January, 1892. Improvements in Base Burning Boilers for Steam Heating, 9th January, 1892.

2436. WILLIAM GREEY and J. G. GREEY, 3rd five years of No. 14,034, from the 19th day of January, 1892. Improvements on Machines for Collecting Dust in Flour Mills, 9th January, 1892.

2437. BERNARD CHARLES MALLOY, 2nd five years of No. 25,806, from the 19th day of January, 1892. Improvements in Apparatus for Amalgamating Gold and other Precious Metals, 9th January, 1892.

2438. WILLIAM EDWIN HOWARTH, 3rd five years of No. 13,978, from the 11th day of January, 1892. Improvements on Combined Fanning Mills and Grain Separators, 11th January, 1892.

2439. JACOB GARNER GERMAN, 3rd five years of No. 14,093, from the 30th day of January, 1892. Improvements in Wrought Iron Fences, 12th January, 1892.

2440. MASTERMAN AUTOMATIC BRAKE EQUALIZER COMPANY (assignees), 2nd five years of No. 25,713, from the 13th day of January, 1892. Improvements in Car Brakes, 13th January, 1892.

2441. MARK B. TRUE, 2nd five years of No. 25,727, from the 13th day of January, 1892. Improvements in Mechanical Movements, 13th January, 1892.

2442. EDWARD SELDEN TOWNSEND KENNEDY, 2nd five years of No. 25,917, from the 4th day of February, 1892. Improvements in Flame Deflectors for Upright Boilers, 14th January, 1892.

2443. ROSWELL H. SMITH, 3rd five years of No. 13,987, from the 16th day of January, 1892. Improvements on Hanging Open Back Saws for different uses, 14th January, 1892.

2444. MOIETZ IMMISCH, 3rd five years of No. 26,030, from the 17th day of February, 1892. Improvements in Electro Motors and Dynamo Machines, 14th January, 1892.

2445. MASSEY MANUFACTURING COMPANY (assignees), 2nd five years of No. 25,759, from the 17th day of January, 1892. Improvements in Harvesters, 15th January, 1892.

2446. MASSEY MANUFACTURING COMPANY (assignees), 2nd five years of No. 25,775, from the 17th day of January, 1892. Improvements in Knotting Devices for Grain Binders in the Automatic Binding of Sheaves of Grain, 15th January, 1892.

2447. FRANK HOWARD RANSOM, 3rd five years of No. 13,997, from the 16th day of January, 1892. Improvements on Trunks, 15th January, 1892.

2448. JOHN HENRY GROUT, 2nd five years of No. 25,790, from the 18th day of January, 1892. Improvements in Sulky Plows, 16th January, 1892.

2449. GEORGE PIRNIE, 2nd five years of No. 28,398, from the 20th day of January, 1893. Improvements in Whips, 19th January, 1892.

2450. WILLIAM ALLEN LAWRENCE, 2nd five years of No. 25,838, from the 24th day of January, 1892. Improvements in Combination Locks, 20th January, 1892.

2451. CHARLES JAMES SHIRREFF, 2nd five years of No. 25,828, from the 24th day of January, 1892. Improvements in Mangles, 21st January, 1892.

2452. STEPHEN STIGER, 2nd five years of No. 25,940, from the 7th day of February, 1892. Improvements in Scales, 21st January, 1892.

2453. DARWIN ALANSON GREENE, 2nd five years of No. 25,905, from the 2nd day of February, 1892. Improvements in Sawing Machines, 21st January, 1892.

2454. BELL TELEPHONE COMPANY (assignees), 3rd five years of No. 14,454, from the 21st day of March, 1892. Improvements in Contact or Microphone Telephones, 22nd January, 1892.

2455. SAMUEL WOLCOTT PARSONS, 2nd five years of No. 25,832, from the 24th day of January, 1892. Improvments in Washing Machines, 23rd January, 1892.

2456. JEAN SCHERBEL, 2nd and 3rd five years of No. 25,955, from the 9th day of February, 1892. Improvements on the Manufacture of Boxes and other Articles of Cardboard, Wood, Leather and the like, in Clamps of Fittings for the Corners and Edges of the same, and apparatus connected therewith, 25th January, 1892.

2457. GEORGE D. POHL, 2nd five years of No. 25,873, from the 28th day of January, 1892. Improvements in Self Salting Curd Mills, 25th January, 1892.

2458. GEORGE W. CANNON, 2nd five years of No. 26,746, from the 18th day of May, 1892. Improvements in Dumb Waiters, 26th January, 1892.

2459. ISRAEL KINNEY, 2nd five years of No. 25,866, from the 27th day of January, 1892. Improved Metal Fabrics, 26th January, 1892.

2460. DONALD LIVINGSTONE and MARSHAL L. NUTTING, 2nd five years of No. 25,851, from the 26th day of January, 1892. Machine for Cutting the Bands of Sheaves of Grain and Feeding the same to Threshing Machines, 26th January, 1892.

2461. HENRY BURNHAM WILLS, CHARLES EDWARD RAPSON and HENRY AUGUSTINE BIGGINS, 2nd five years of No. 26,062, from the 25th day of February, 1892. Improvements in Machines for Ornamenting Wood, 26th January, 1892.

2462. EDWIN HERBERT CLARE, 2nd five years of No. 25,901, from the 2nd day of February, 1892. Improvements in Root Cutters for Slicing Turnips, &c., 28th of January, 1892.

2463. WYCKOFF SEAMANS and BENEDICT (assignees), 2nd five years of No. 26,102, from the 28th day of February, 1892. Improvements in Cabinets or Cases for Typewriters, 28th January, 1892.

2464. EBENEZER BAKER WELCH, 2nd five years of No. 25,885, from the 29th day of January, 1892. Improvements in Trimming Mechanism for Sewing Machines, 28th January, 1892.

2465. WILLIAM ROBERT HARTIGAN, 2nd five years of No. 25,897, from the first day of February, 1892. Improvements in Egg Openers, 28th January, 1892.

2466. NATHAN MANUFACTURING COMPANY (assignees), 2nd five years of No. 26,380, from the 4th day of April, 1892. Improvements in Lubricators for use on Locomotives, &c., 28th January, 1892.

2467. ORRIS HUBERT WARREN, 2nd five years of No. 25,946, from the 8th day of February, 1892. Improvements in Oil Cans, 30th January, 1892.

JANUARY LIST OF TRADE MARKS.

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

4222. ASPINWALL MANUFACTURING COMPANY, of Three Rivers, Michigan, U.S.A. Agricultural Implements, such as Potatoe Planters, Diggers and Corn Planters, 2nd January, 1892.

4223. DOUGLAS, BROTHER & CO., of Tamworth, Addington County, Ont. Liniment, 2nd January, 1892.

4224. THE METALLIC ROOFING COMPANY OF CANADA, L'D, Toronto, Ont. Sheet Metal Plates, 7th January, 1892.

4225. THE PYN KA SYNDICATE, L'D, of Liverpool, England. All kinds of Polishing and Cleaning Preparations and Materials, 7th January, 1892.

4226. SIEGFRIED AND BRANDENSTEIN, of San Francisco, California, U.S.A. Tea, 11th January, 1892.

4227. THE INDEPENDENT MATCH CO, de Louiseville, Qué. Allumettes chimiques, 13 janvier, 1892.

4228. WILLIAM ANDREWS COLLINS, of Montreal, Que. Medicinal Preparation, 19th January, 1892.

4229. WHALEY, ROYCE & CO., of Toronto, Ont. Band Instruments and Accordeons, 23rd January, 1892.

4230. THE CARTER MEDICINE COMPANY, of New York, N.Y., U.S.A. Pills, 25th January, 1892.

4231. MÜLLER, PHILIPP & COMPANY, of Marienbad, Bohemia, Austria-Hungary. Medicinal Tablets, containing Salts obtained from the Springs of Marienbad, 27th January, 1892.

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Copyright and Trade Mark Branch.

6260. THE "RECORDER" MAP OF THE TOWNSHIP OF YORK, shewing the boundaries of the Public School Sections and Local Municipalities, also of the East Half of the Township of Etobicoke, 1892. Scale, $3\frac{1}{16}$ inches=1 mile. Allen & Co., Toronto, Ont., 2nd January, 1892.

6261. WEEKLY HOUSEHOLD EXPENSE BOOK. Williamson & Co., Toronto, Ont., 2nd January, 1892.

6262. SCALE EIGHT FEET TO ONE INCH } échelles { avec toutes les subdivi-
6263. SCALE FOUR FEET TO ONE INCH } { sions du pouce anglais en fractions diverses et uniformes. John Esinhart, Montréal, Qué., 2 janvier, 1892.

6264. STROUD'S PICTORIAL CALENDAR, 1892. W. D. Stroud & Sons, Montreal, Que., 4th January, 1892.

6265. MAGGIE MURPHY'S WALTZ, arranged by E. Corlett. W. H. Billing, Toronto, Ont., 7th January, 1892.

6266. COWPER, by Goldwin Smith. English Men of Letters. Macmillan & Co., London, England, 7th January, 1892.

6267. IN THE HANDS OF THE ENEMY. Painted by James Hovenden (engraving). The Mail Printing Co., L'd, Toronto, Ont., 8th January, 1892.

6268. FLOWER SONG (Rosenlied) for piano, by Charles Morley. Op. 60.

6269. L'AIDE-DE-CAMP. Morceau Militaire, pour piano, par Victor Delacour.

6270. MARGUERITE. No. 1 of Album Leaves, for piano, by F. X. Chwatal. The Anglo-Canadian Music Publishers' Association, L'd, London, England, 3th January, 1892.

6271. LIFE OF THE RIGHT HONOURABLE SIR JOHN A. MACDONALD, G.C.B., &c., &c., by his nephew, Lt.-Col. J. P. Macpherson, A.D.C. (in two vols.), Ottawa, Ont., 8th January, 1892.

6272. THE CANADIAN ALBUM. Men of Canana; or, Success by Example. Vol. I. Edited by Rev. Wm. Cochrane, D.D. Thos. S. Linscott, Brantford, Ont., 9th January, 1892.

6273. PARLIAMENTARY PROCEDURE AND PRACTICE. With a Review of the Origin, Growth and Operation of Parliamentary Institutions in the Dominion of Canada. By John George Bourinot. Second Edition. Revised and Enlarged. Ottawa, Ont., 11th January, 1892.

6274. MARCHE DES TAMBOURS. Morceau Militaire, par Sydney Smith. The Anglo-Canadian Music Publishers' Association, L'd, London, England, 12th January, 1892.

6275. BELL TELEPHONE COMPANY OF CANADA, WESTERN EXCHANGES, SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, DECEMBER, 1891. Bell Telephone Company of Canada, Montreal, Que., 14th January, 1892.

6276. LA SERENATA DE BRAGA. Op. 222. Transcrite pour piano, par Sydney Smith. The Anglo-Canadian Music Publishers' Association, L'd, London, England, 14th January, 1892.

6277. CHAPTERS IN THE HISTORY OF ORANGEISM, which are now being preliminarily published in separate articles in "The Sentinel and Orange and Protestant Advocate," Toronto, Ont. (Temporary Copyright.) Richard Lilburn, Belfast, Ireland, 15th January, 1892.

6278. SLEEP THOU, MY SON! Sacred Song. Words and Music by M. Piccolomini. Chappell & Co., London, England, 15th January, 1892.

6279. PAS DE QUATRE. Skirt Dance, for the piano, from the Opera Burlesque Faust up to Date, by Meyer Lutz. I. Suckling & Sons, Toronto, Ont., 15th January, 1892.

6280. FETE HONGROISE. Mazurka Elegante, pour piano. Op. 43, par Sydney Smith. The Anglo-Canadian Music Publishers' Association, L'd, London, England, 15th January, 1892.

6281. WOULDN'T IT BE NICE. Topical Song. Words by James Fax. Music by Chas. Bohner. Whaley, Royce & Co., Toronto, Ont., 16th January, 1892.

6282. HOUSEKEEPERS' WEEKLY CASH BOOK. Francis Jeffrey, Toronto, Ont., 16th January, 1892.

6283. A COUNTRY RAMBLE POLKA, by P. Bucalossi. Chappell & Co., London, England, 18th January, 1892.

6284. A WORD BOOK TO THE STUDENTS OF ENGLISH HISTORY, by Rev. John de Soyres, M.A. Second Edition. Revised and Enlarged. St. John, N.B., 19th January, 1892.

6285. PRINCE IMPERIAL GALOP, for piano, by Chas. Coote. I. Suckling & Sons, Toronto, Ont., 20th January, 1892.

6286. HEATHER AND HAREBELL. Songs and Lyrics, by John MacFarlane. Wm. Drysdale & Co., Montreal, Que., 20th January, 1892.

6287. THE EXPERT ACCOUNTANT'S SYSTEM OF BALANCING BOOKS OF ACCOUNTS, by Keltie & Beck. David Keltie and John Alexander Beck, Hamilton, Ont., 20th January, 1892.

6288. YOUNG MEN, ARISE! Words by Julia A. Johnston. Music by James McGranahan. D. A. Budge, Montreal, Que., 21st January, 1892.

6289. TRIUMPHANT SONGS, NO. 3, by E. O. Excell. Wm. Briggs, Toronto, Ont., 25th January, 1892.

6290. EVENTIDE. Waltz. By James Campbell. George J. Sheppard, Montreal, Que., 27th January, 1892.

6291. ADIEU! Melodie pour piano, par Sydney Smith. Op. 114.

6292. BY THE GOLDEN RIVER. Song. Words by Clifton Bingham. Music by F. Boscovitz.

6293. FAUST. Fantaisie brilliante sur l'opera de Gounod, pour piano, par Sydney Smith. Op. 117.

6294. PAROLES DU CŒUR. Andantino pour piano, par Victor Delacour.

6295. SALAMMBO. Waltz. By Popplewell Royle.
The Anglo-Canadian Music Publishers' Association, L'd, London, England, 27th January, 1892.

6296. PERPETUAL READY REFERENCE GUIDE TO THE STATUTES OF CANADA, viz.: The Revised Statutes of 1886, and all subsequent amending, repealing, cognate and new Acts. Compiled by Fred. K. Blatch, Ottawa, Ont., 27th January, 1892.

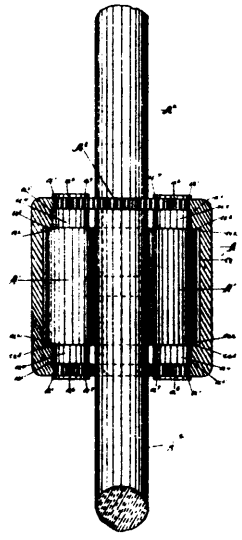
6297. THE MERCHANTS' AND MANUFACTURERS' CREDIT SYSTEM BOOK. (Forms.) The Toronto Blank Form Co., Toronto, Ont., 29th January, 1892.

THE

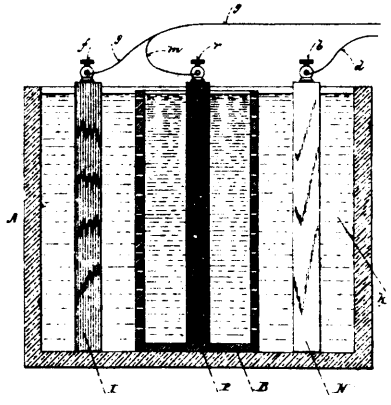
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

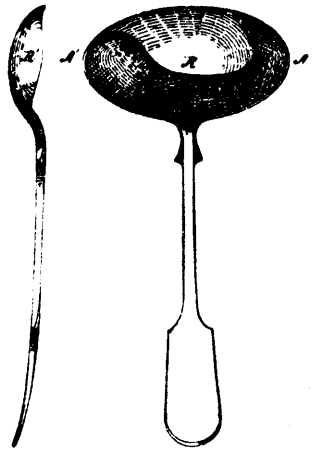
Vol. XX. JANUARY, 1892. No. 1.



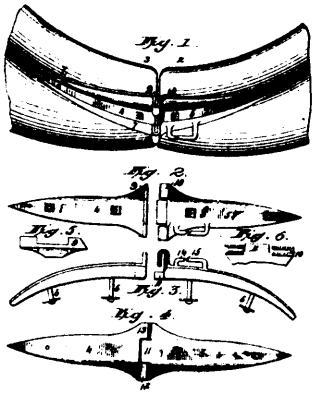
38025 Stilson's Shaft and Journal Box.



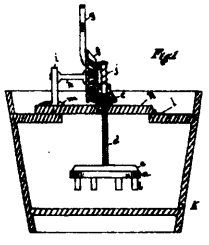
38026 Richards and James' Electric Battery.

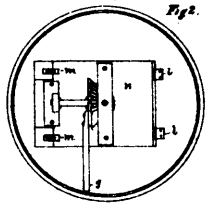


38027 Gray's Spoon.

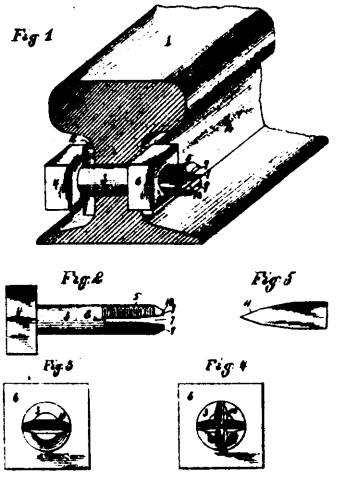


38028 Kickenapp's Collar Fastener.

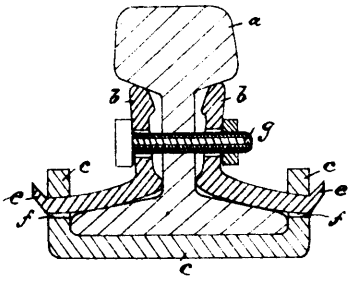




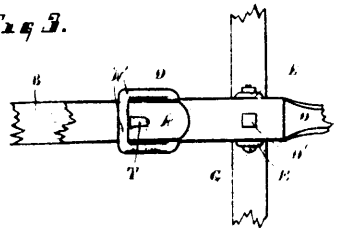
38029 Champion's Washing Machine.



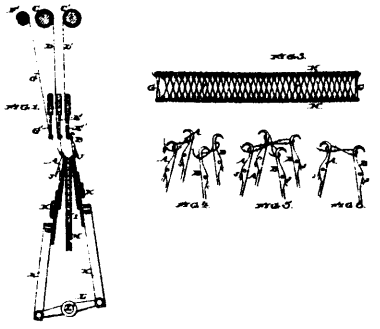
38030 Walker's Nut Lock.



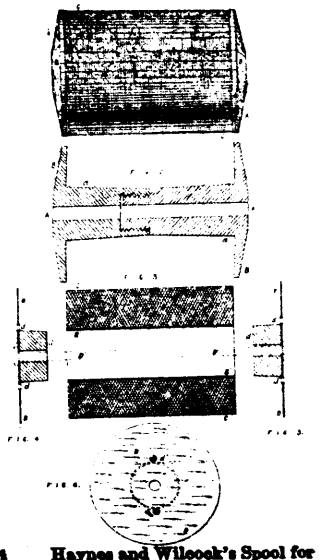
38031 Eno's Railway Joint.



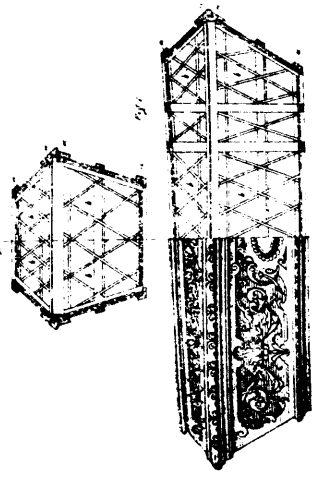
38032 Atkinson's Vehicle Spring.



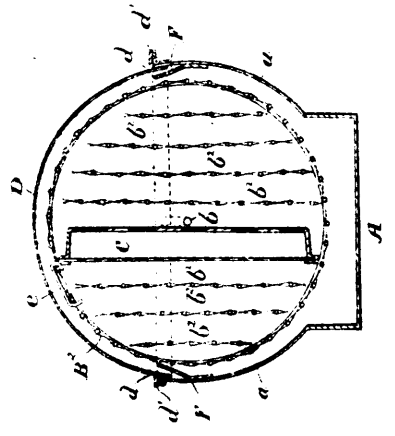
38033 Clewley and McGill's Knitted Bag.



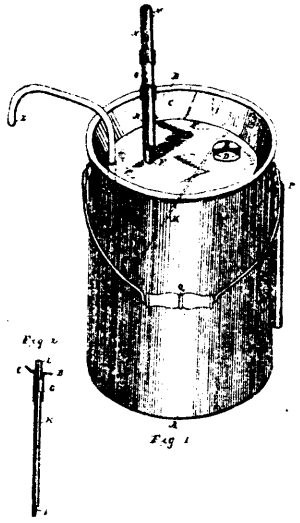
38034 Haynes and Willcock's Spool for Yarn, etc.



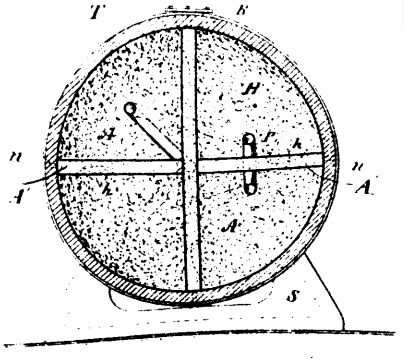
38035 Mueller and Stader's Coffin.



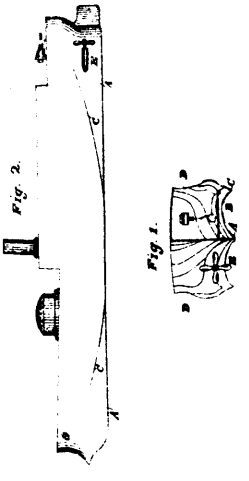
38036 Davis' Dish Washer.



38037 Garland's Can for Petroleum.



38038 Hasbronck's Apparatus for Ageing Liquors.



38039 Hodgett's Art of Constructing the Hulls of Iron-clads and Other Vessels.

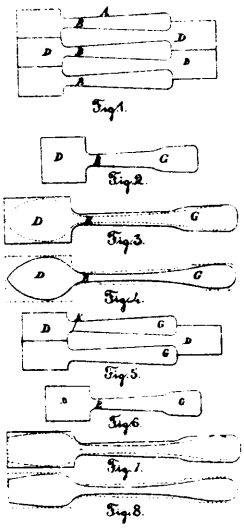


Fig. 1.
Fig. 2.
Fig. 3.
Fig. 4.
Fig. 5.
Fig. 6.
Fig. 7.
Fig. 8.

38040 **Hart's Spoon and Fork.**

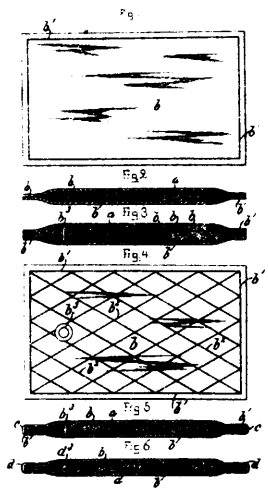
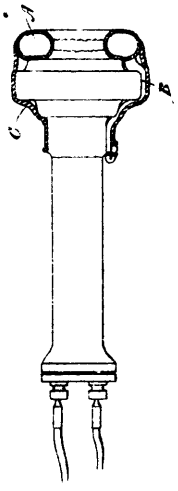
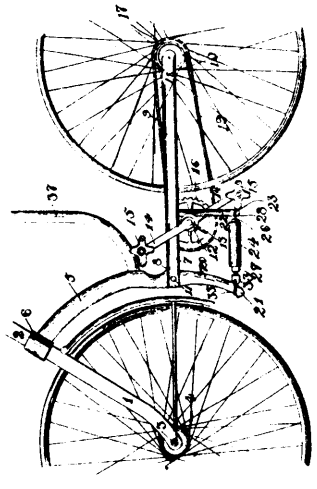


Fig. 1.
Fig. 2.
Fig. 3.
Fig. 4.
Fig. 5.
Fig. 6.

38042 **Roger's Pad for Electric Cells.**



38043 **Gross' Telephone Receiver.**



38044 **Mathew's Bicycle.**

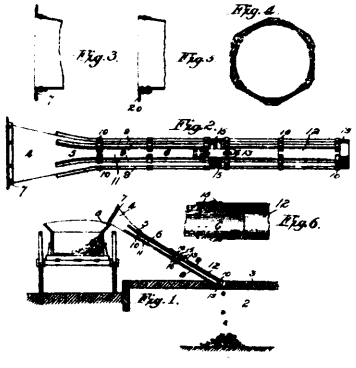
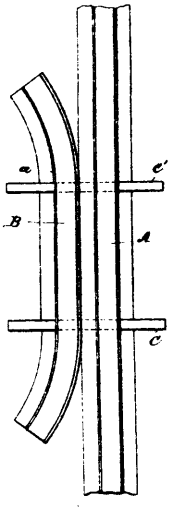
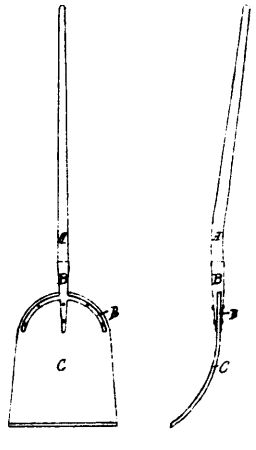


Fig. 1.
Fig. 2.
Fig. 3.
Fig. 4.
Fig. 5.
Fig. 6.

38045 **Emery's Chute for Grain and Coal.**



38046 **Smith and Blackwell's Device for Securing Guard Rails in Place.**



38047 **Still's Wooden Shovel.**

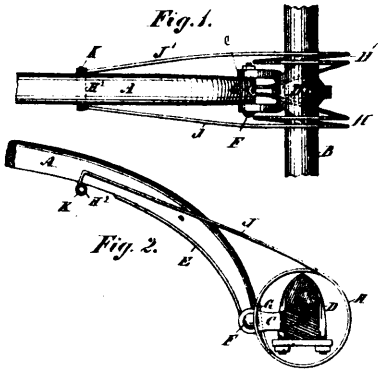
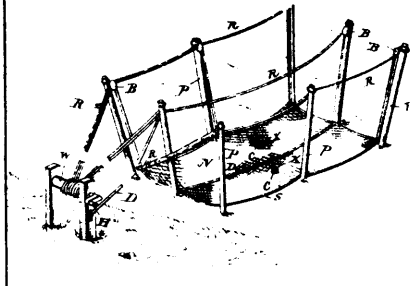
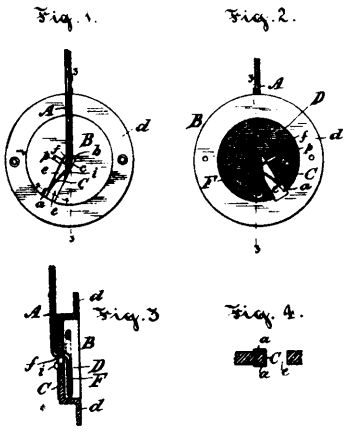


Fig. 1.
Fig. 2.

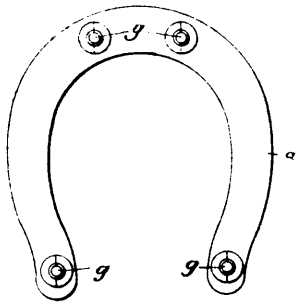
38048 **Fletcher's Thill Support.**



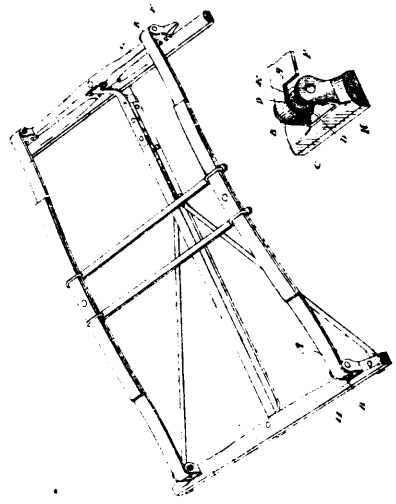
38049 **Jones' Fishing Seine.**



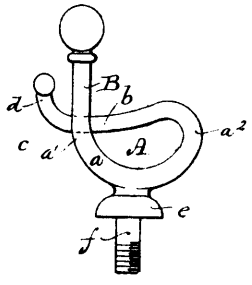
38050 Lusk's Bail and Ear for Pails, etc.



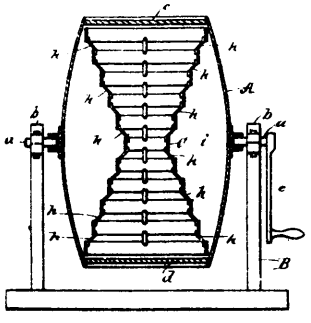
38051 Higgins' Horseshoe Calk.



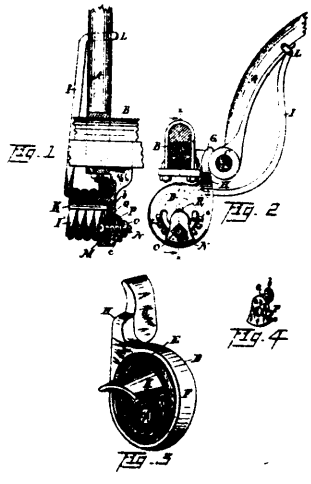
38052 McLaughlin's Carriage Gear.



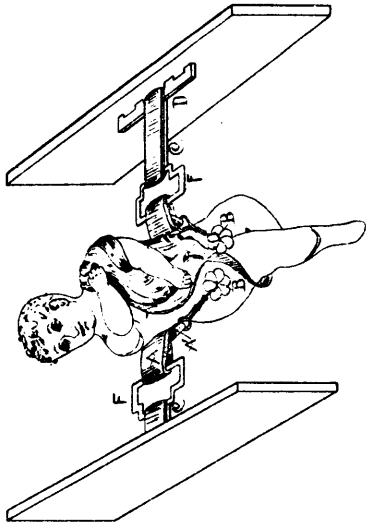
38053 Lobdell's Check Hook.



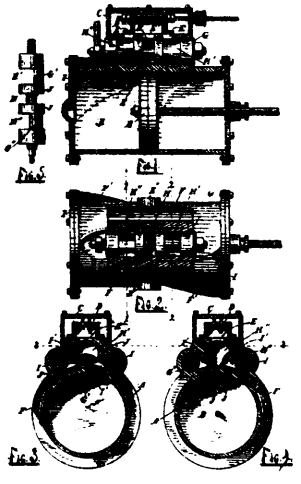
38054 Mark's Churn.



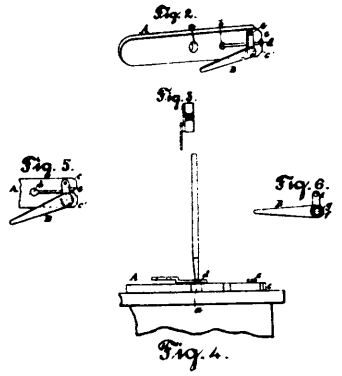
38055 Bishop and Miller's Shaft Support and Anti-Rattler.



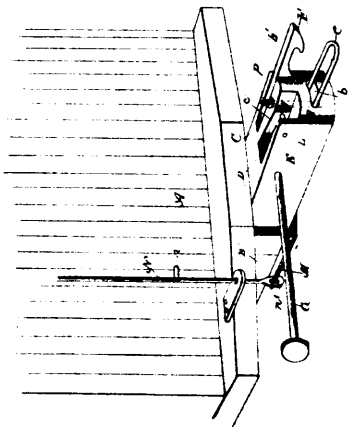
38056 Kangler's Holder for Bed Clothes and Babies.



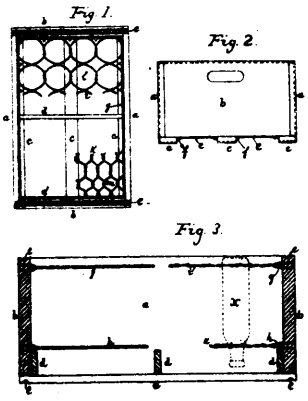
38058 Fraser and Cosford's Reversing Gear for Steam Engines.



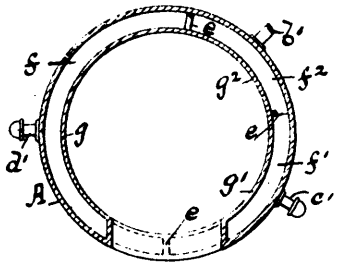
38059 Cunningham's Jewel Holder.



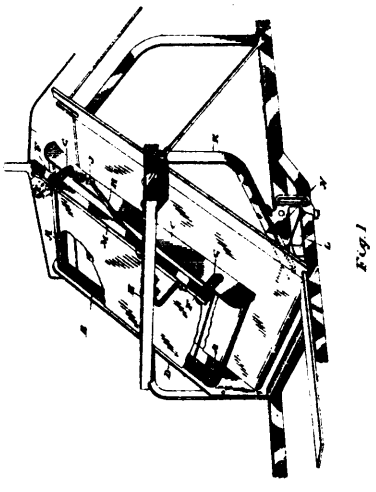
38060 Kirby's Car Coupler.



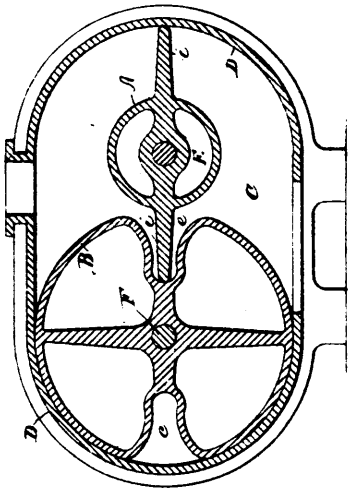
38061 Marlow's Bottle Case.



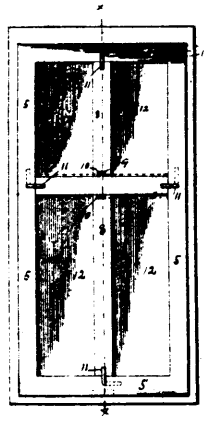
38062 Dwinnell's Hot Water Heater.



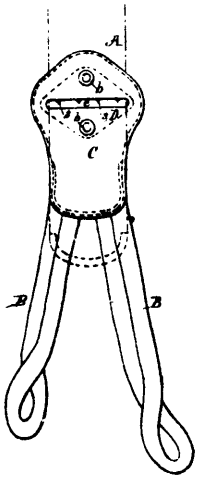
38063 Jones and Wedlake's Harvester Binder.



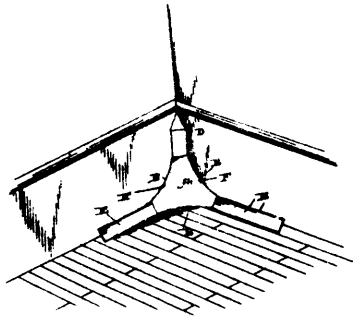
38064 Johnson's Rotary Engine, Blower, Pump and Water Meter.



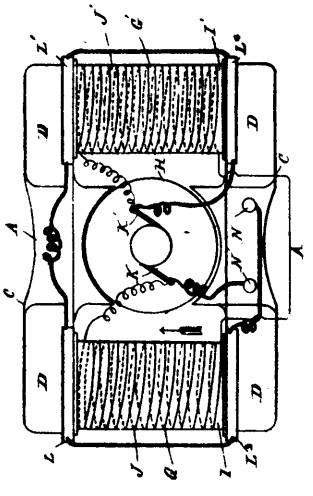
38065 Lyle's Screen Door.



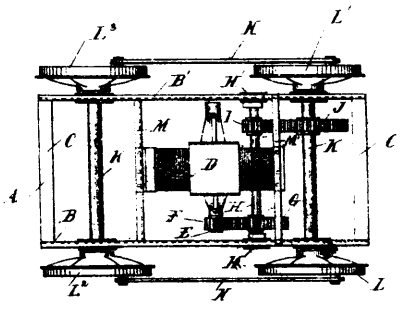
38066 Lieberthal's Suspender.



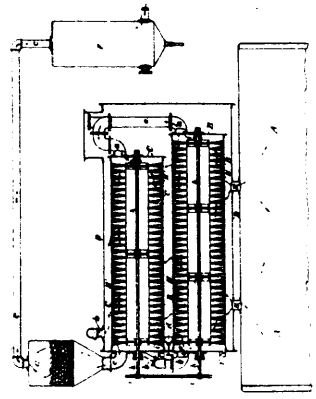
38067 Rockwell's Corner Shield and Protector.



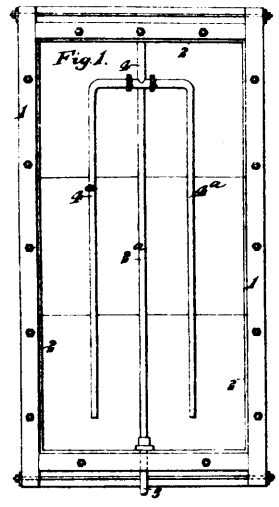
38068 Rae's Dynamo Electric Machine.



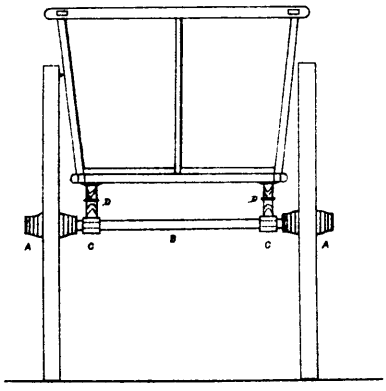
38069 Rae's Motor Truck for Electrically Propelled Vehicle.



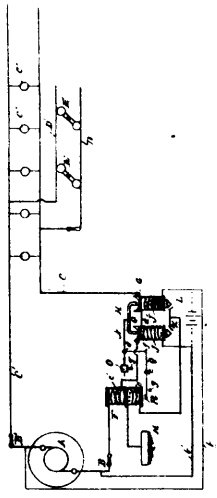
38070 Frasch's Apparatus for Refining Petroleum.



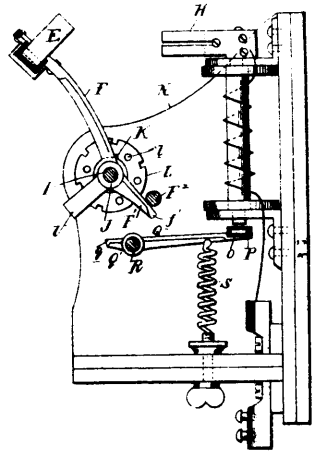
38072 Raabe's Treatment of Vegetable Textile Fibres for the Manufacture of Yarns and Fabrics.



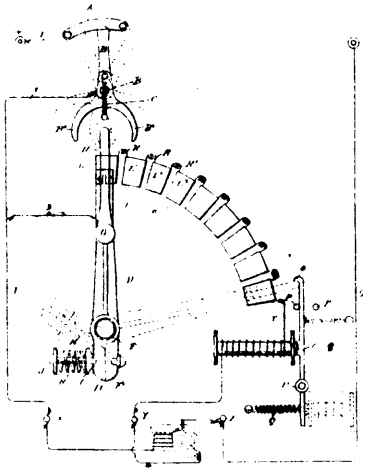
38073 Farquhar's Vehicle.



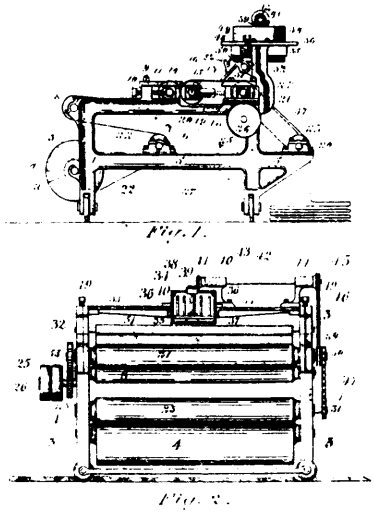
38074 Rae's Electrical Cut Out.



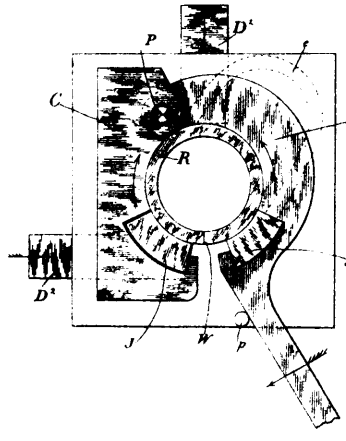
38075 Rae's Limit Switch.



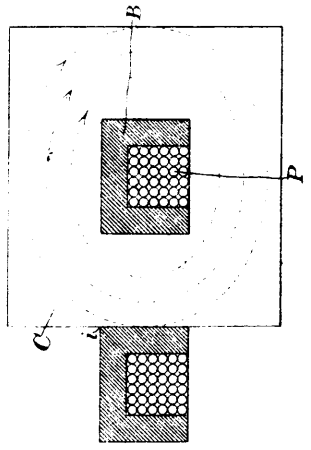
38076 Rae's Switch for Stationery Motors.



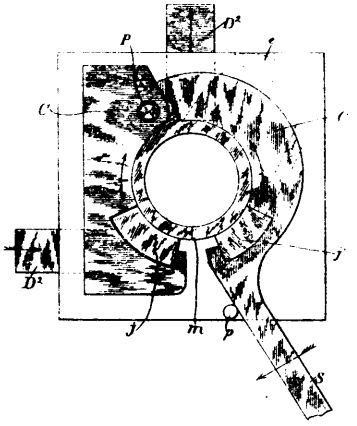
38077 Armitage's Painting Machine.



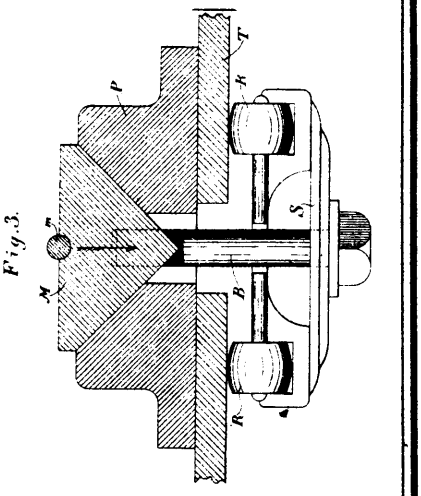
38078 Lemp's Method of Welding Rings by Electricity.



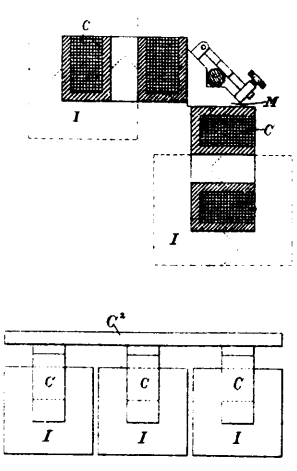
38079 Lemp's Transformer for Heavy Currents.



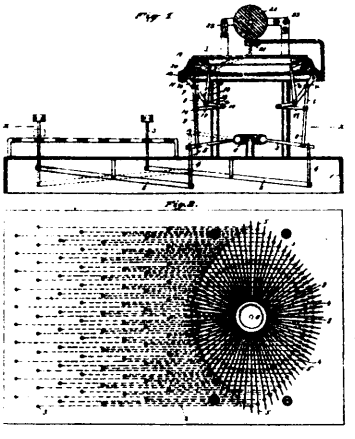
38080 Lemp's Electrical Apparatus for Welding Rings.



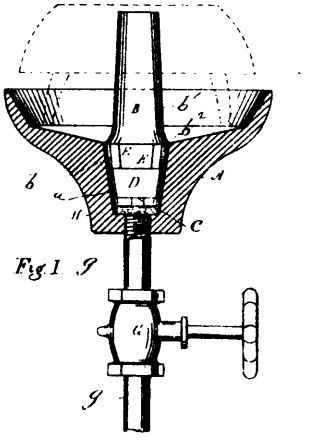
38081 Lemp's Sliding Clamp for Electric Welding Apparatus.



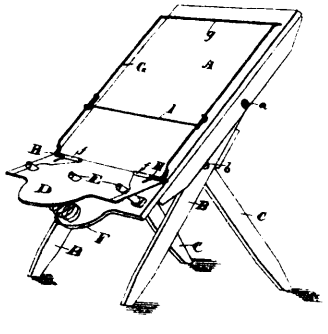
38082 Lemp's Electric Welding Apparatus.



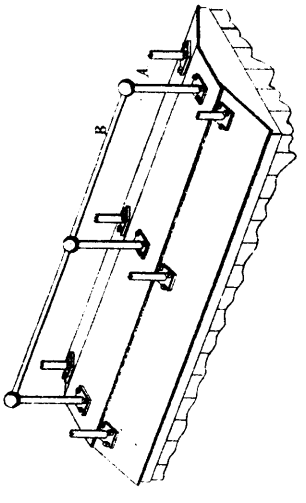
38083 Felbel and Steiger's Type Writing Machine.



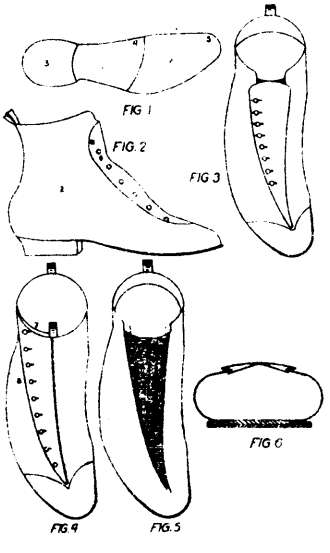
38084 Willi's Burner for Crude Oil.



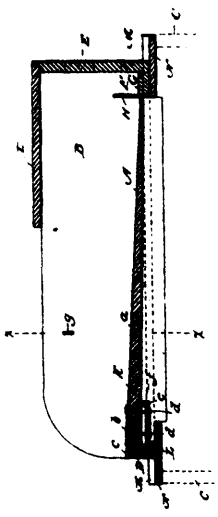
38085 Still' Copy Holder for Typewriters.



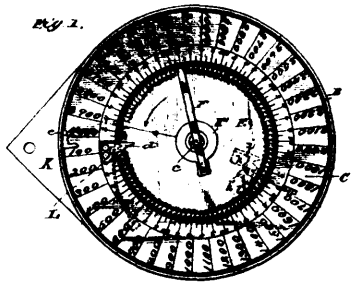
38086 Sullivan's Guide Rod for the Tops of Freight Cars.



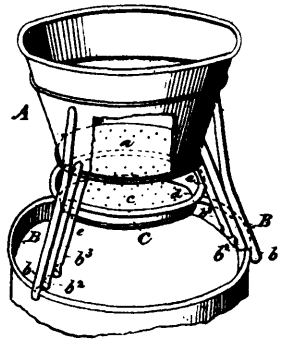
38087 Hood's Boot and Shoe.



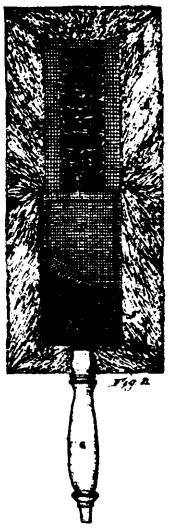
38088 Jenne's Trap for Animals.



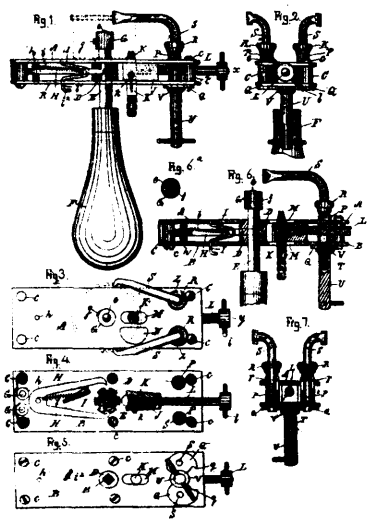
38089 Blackshaw and Rogers' Adding Machine.



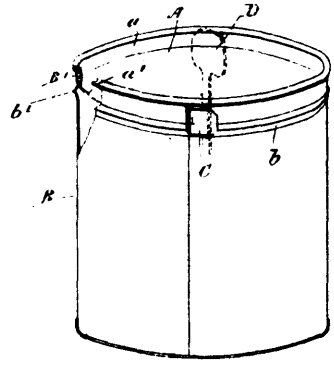
38090 Macy's Aerator for Milk.



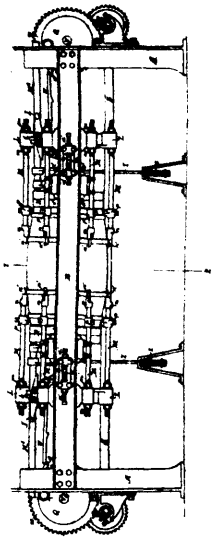
38091 Hair's Duster.



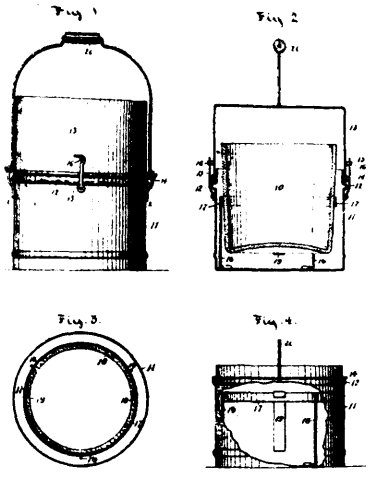
38092 Vaughan's Mainspring Winder.



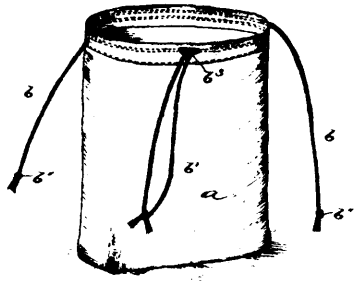
38093 Pratt's Tin Can.



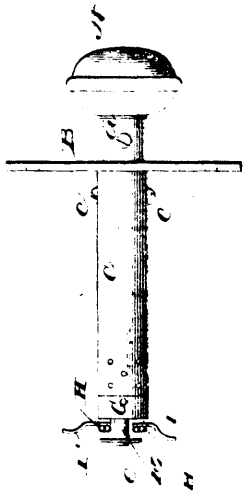
38094 Parker's Barrell Setting Up Machine.



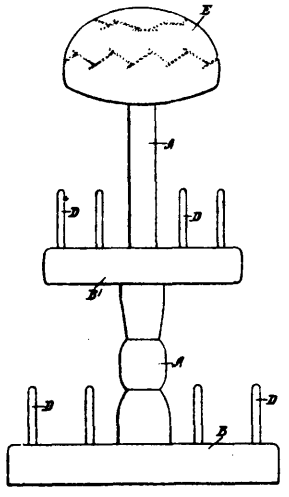
38095 Kneeland's Package for Shipping and Preserving Butter, &c.



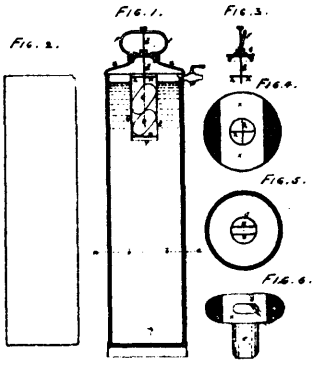
38097 Cussen's Tobacco Pouch.



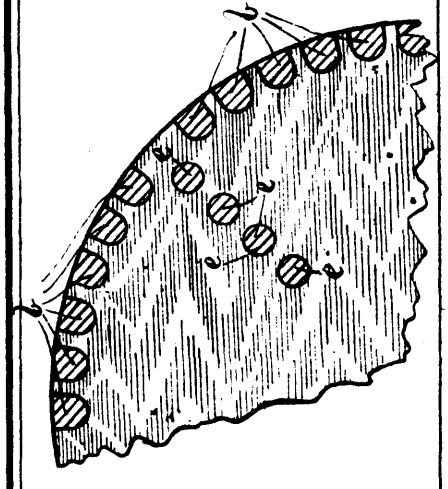
38098 Cleveland's Electrical Door Bell Pull.



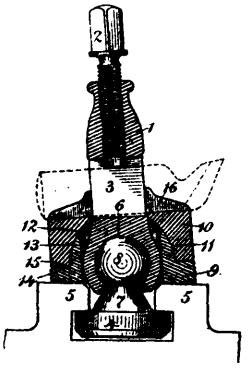
38099 Browslaugh's Spool Holder and Needle Cushion.



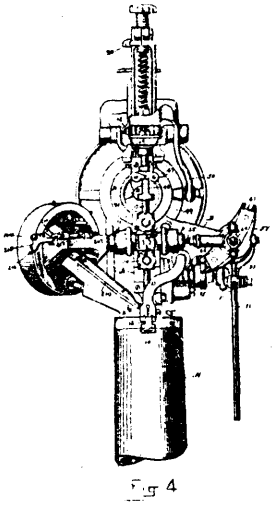
38100 Patton's Chemical Fire Engine.



38103 McCrossan's Washing Machine.



38104 Ronan's Tool Holder.



38105 Gooding and Ladd's Lasting Machine.

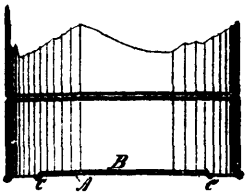


Fig. 2

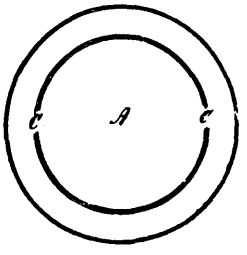
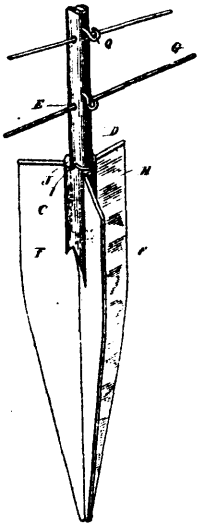
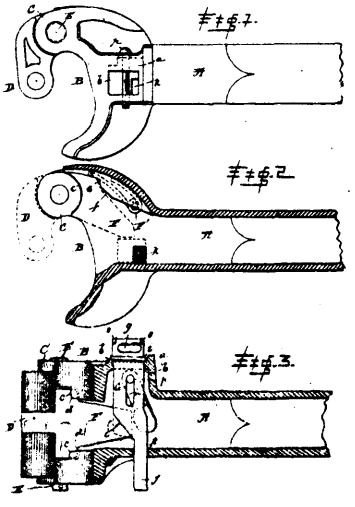


Fig. 1

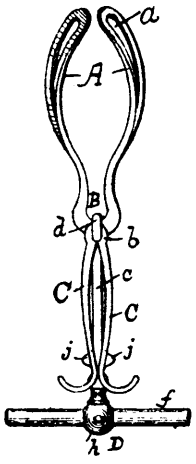
38106 King's Tinware Vessels.



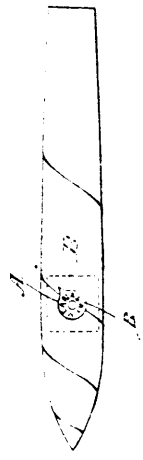
38108 Weienett's Fence Post.



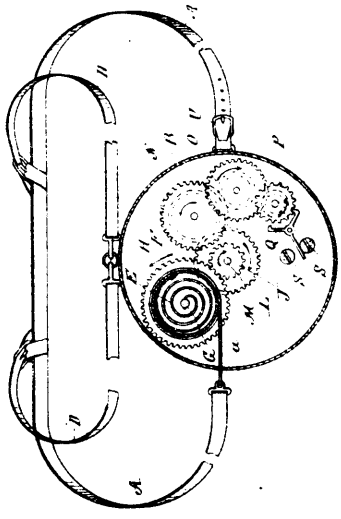
38109 Hinson's Car Coupler.



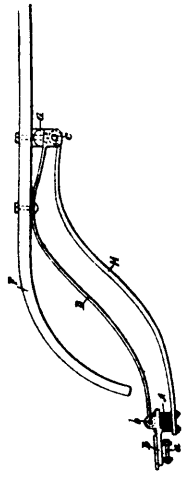
32110 Lyman's Tractor for Obstetric Forceps.



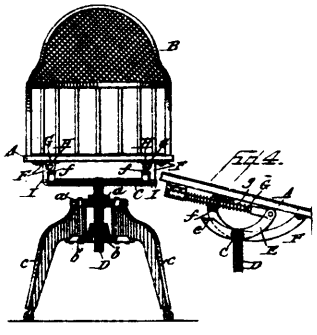
32111 Ascano-Y-Meana's Means for Preventing Fraud in the Sale of Cigars.



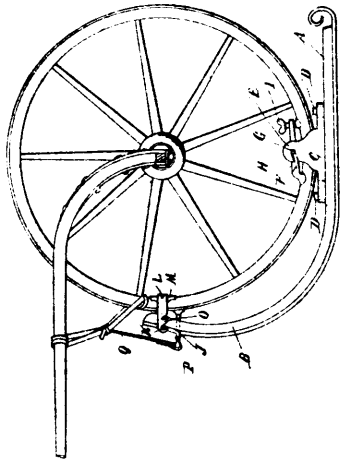
32112 Davis' Device for Inducing full Respiration.



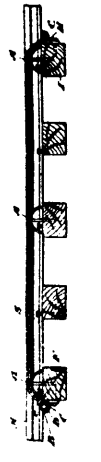
32113 Woods' Road Cart.



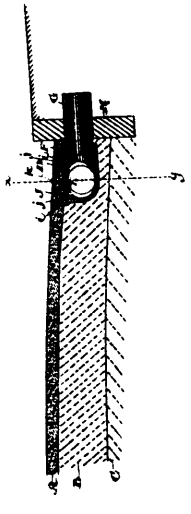
32114 Gage and Herrick's Chair.



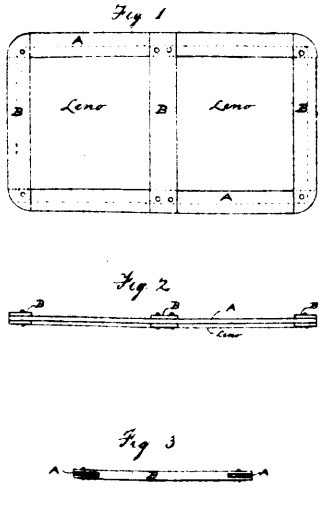
32115 Blankart's Sleigh Runner for Vehicles.



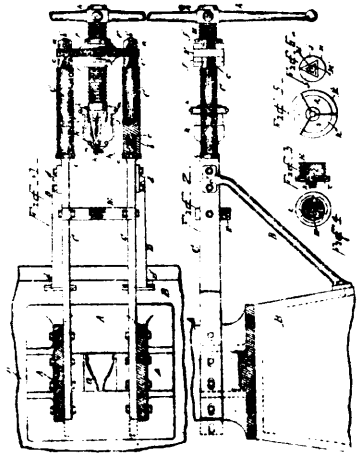
32116 Merrill's Railway Surface Cattle Guard.



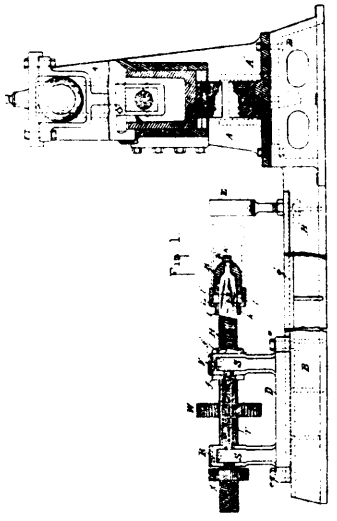
32117 Wright's Method of Laying Electrical Conduits



32118 Williams' Cover for Fruit Baskets.

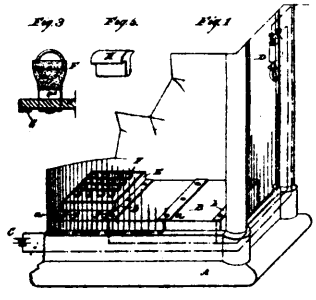


38119 Kennedy's Machine for Swaging the Ends of Metal Tubes

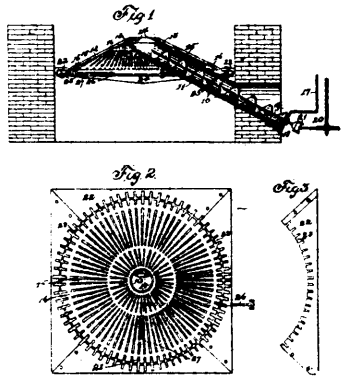


38120 Kennedy's Machine for Swaging the Ends of Metal Tubes.

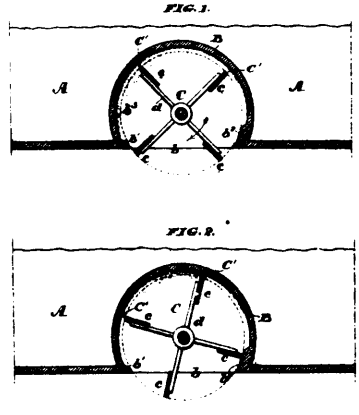
38121 Beer's Weather Strip.



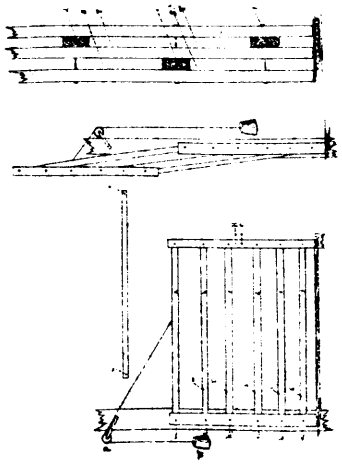
38122 Kruschke's Electric Shoe Casw Alarm.



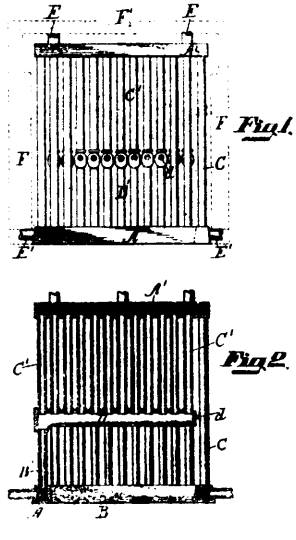
38123 Brown's Complete Combustion Mechanism.



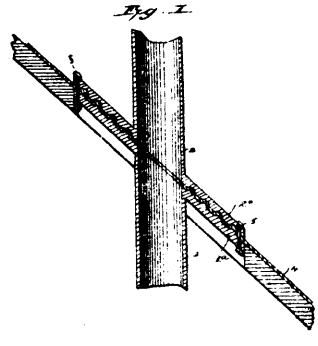
38124 Wigmore's Ship Propeller.



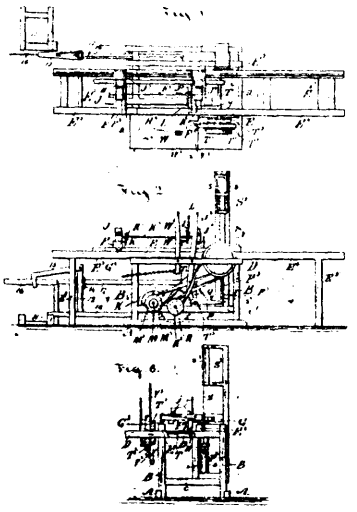
38125 Shoebottom's Gate.



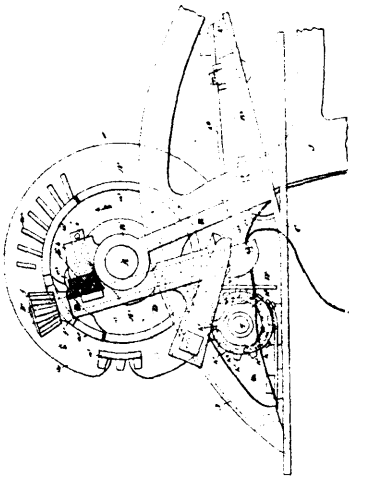
38126 Mouat's Water Heater.



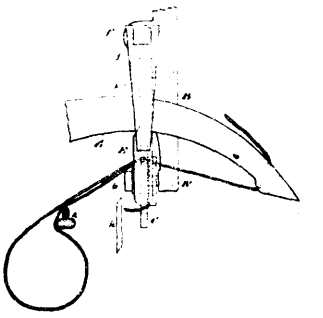
38127 Bidwell's Pipe Joint.



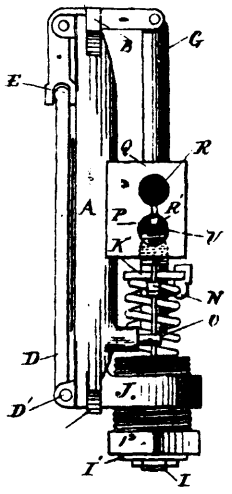
38128 Nadon's Sawmill.



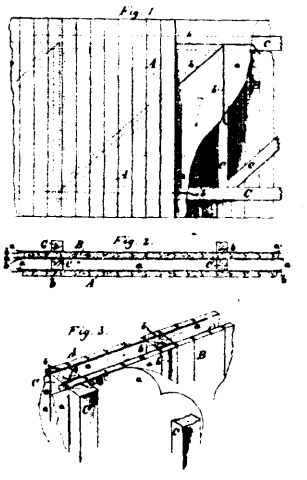
38129 Seiberling's Knotter for Harvester Binders.



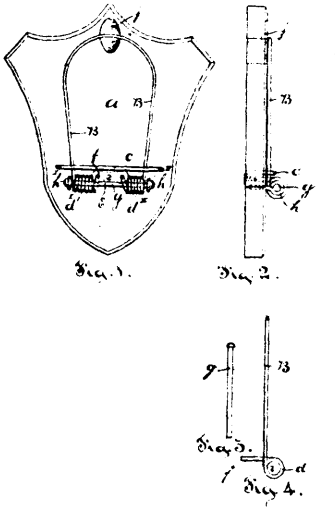
38130 Seiberling's Knotter for Harvester Binders.



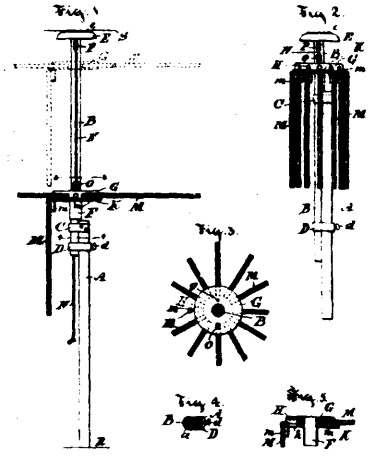
38131 McElroy's Temperature Regulator.



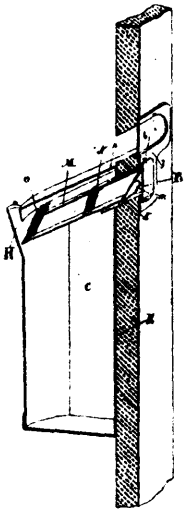
38132 Hanrahan's Refrigerator Car and Building.



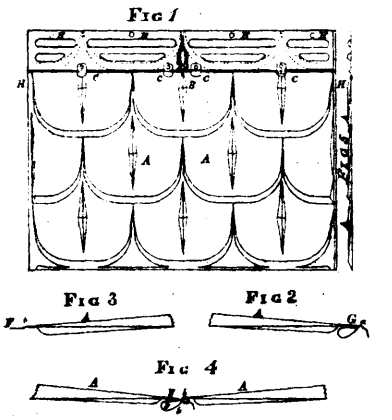
38134 Moore and Willett's Car Ticket Holder.



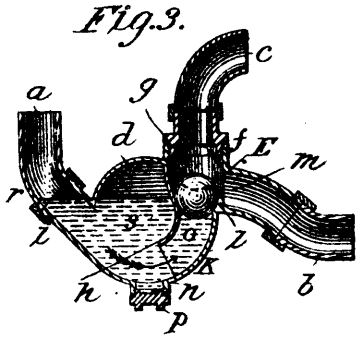
38135 Austen's Clothes Drier.



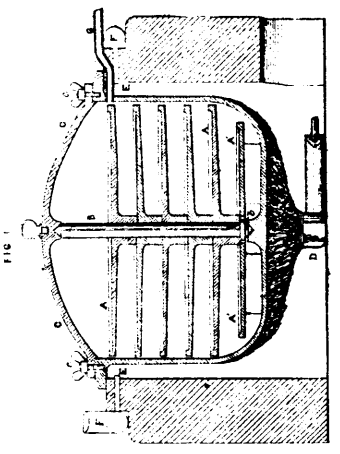
38136 Batter's Milk Receiver.



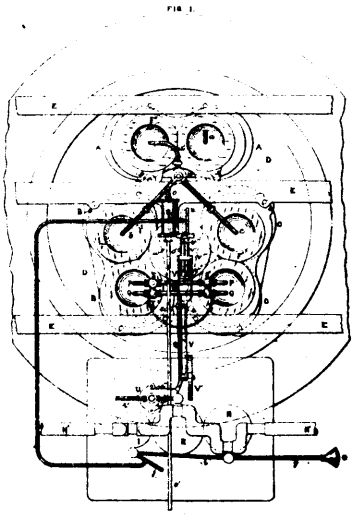
38137 Pedlar's Shingle.



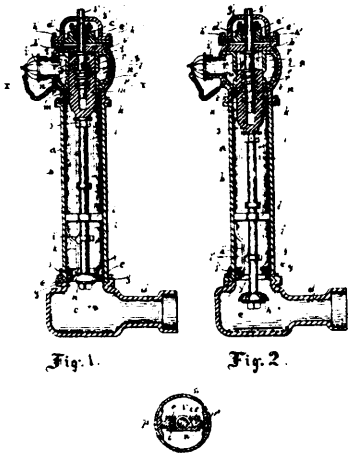
38138 Scott's Safety Tap for Discharge Pipes.



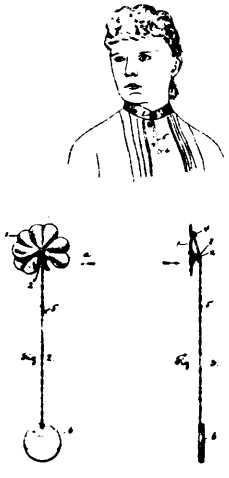
38139 Parkinson's Method of Treating Permanganate.



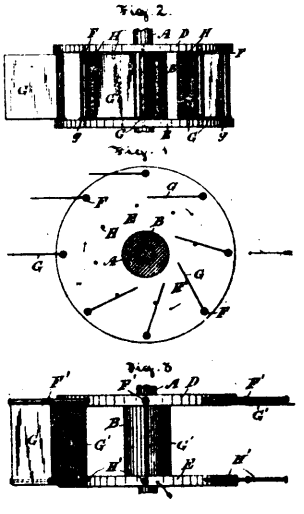
38140 Parkinson's Apparatus for Obtaining Oxygen from Atmospheric Air.



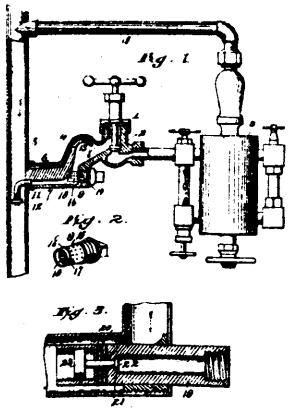
38141 Gregg's Hydrant.



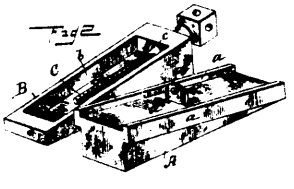
38142 Wattie's Brooch.



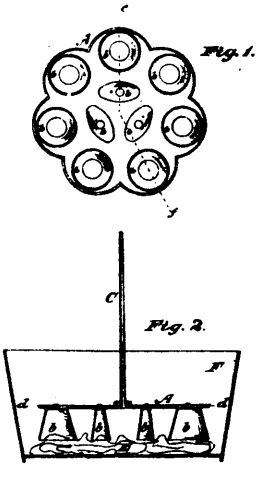
38143 Duval and Belanger's Wheel for Water and Wind.



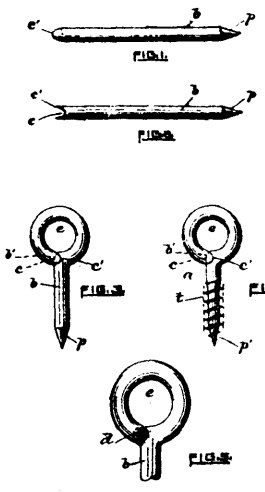
38144 Totman and Ericksen's Lubricating Device.



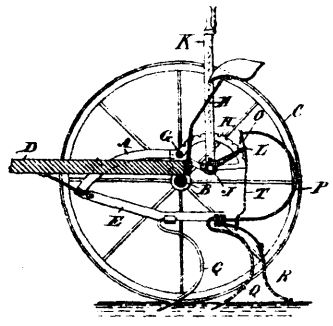
38145 Carr's Keel Block.



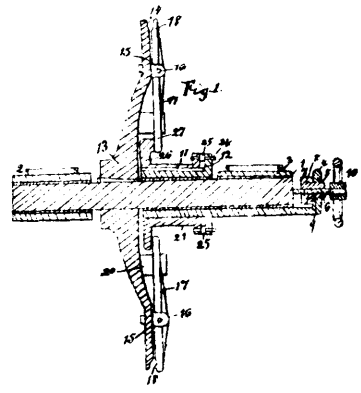
38146 Near's Clothes Washer.



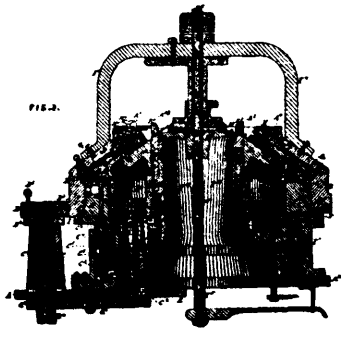
36147 Rogers' Screw Eye.



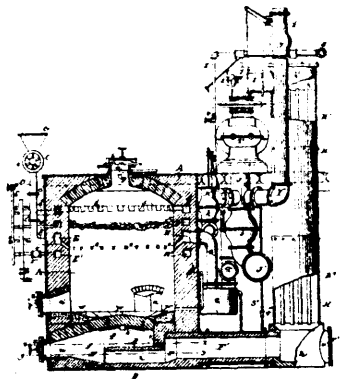
36148 Cook's Sulky Spring Tooth Harrow.



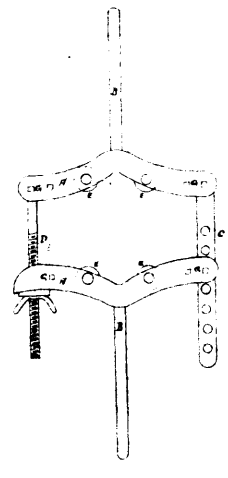
36149 Kendall's Pulley.



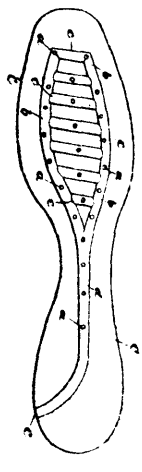
36150 Bridges' Circular Knitting Machine.



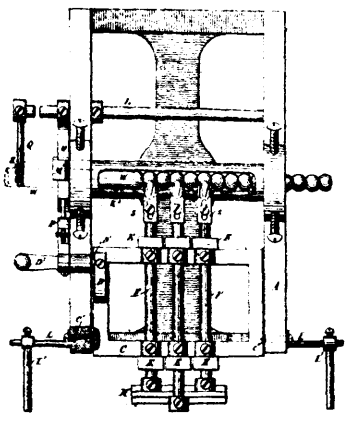
36151 Lomis' Apparatus for the Manufacture of Gas.



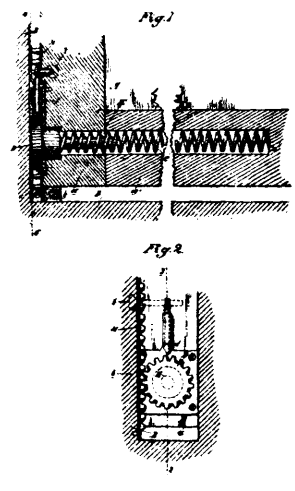
36152 Charest's Machine for Cutting Iron Pipes.



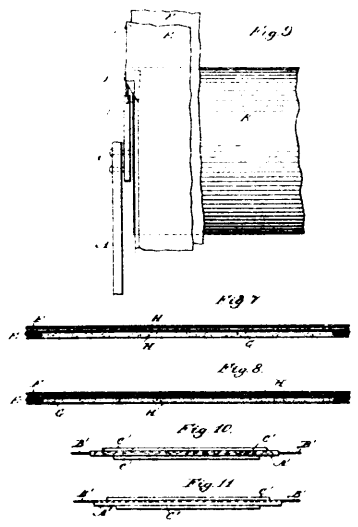
36153 Valiant's Boot and Shoe.



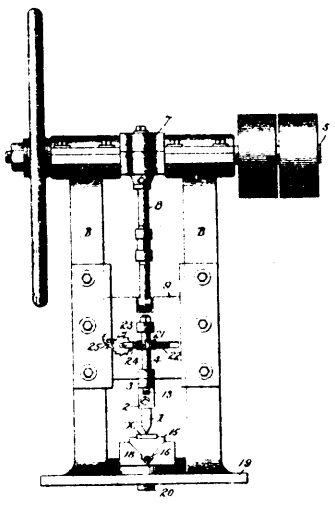
36154 Gebhardt's Machine for Turning Mouldings.



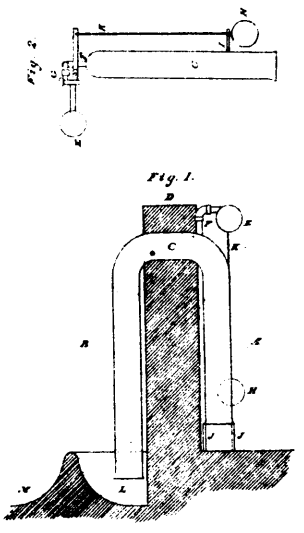
36155 Marshall's Sash Balance and Lock.



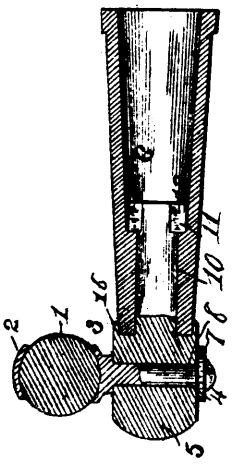
38156 John's Roofing Fabric.



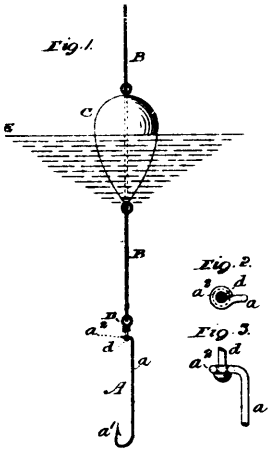
38157 Weed's File and Rasp.



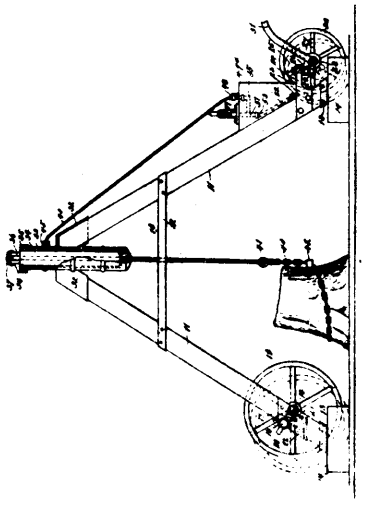
38158 Ruttan's Siphon.



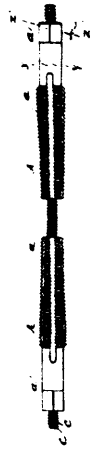
38159 Gadberry's Neck Yoke.



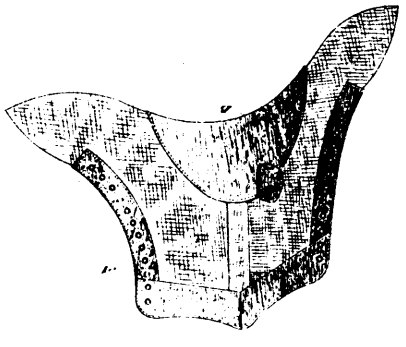
38160 Eichelberger's Fish Hook.



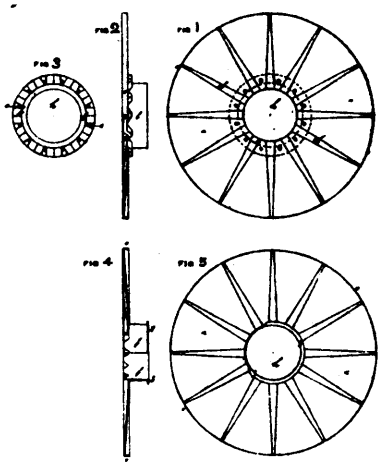
38161 Taylor's Hydraulic Stump Extractor.



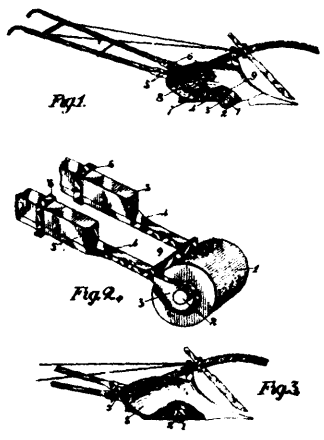
38162 Connelly's Device for Tapping Stay Bolt Holes.



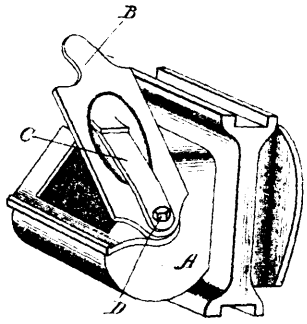
38163 Sharpe's Counter for Boots and Shoes.



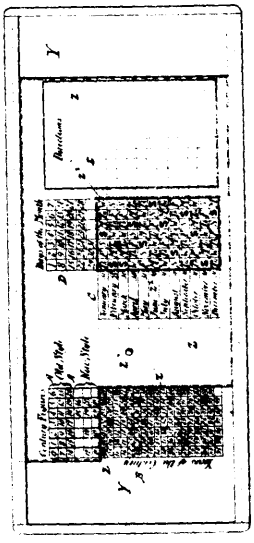
38164 Stafford's Flange for Loom Beams and Warper Beams.



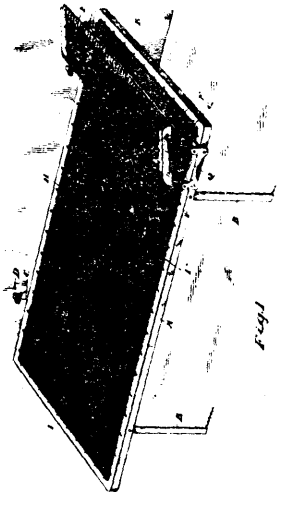
38165 Irwin's Plow.



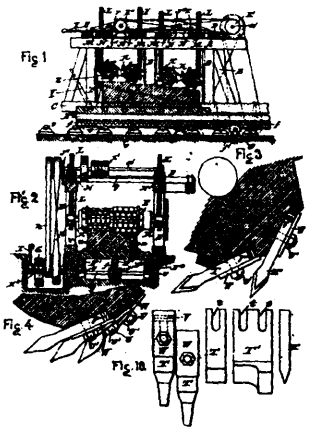
38166 Soutter's Lid for Car Axle Boxes.



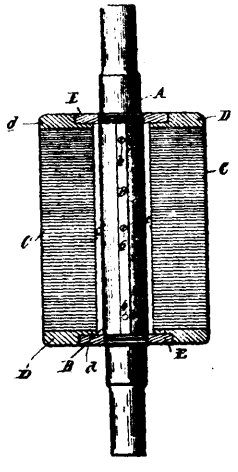
38167 Ross' Calendar.



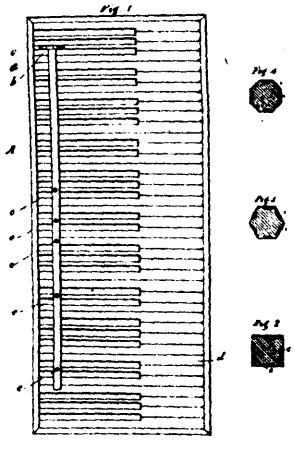
38168 Massie's Bedstead.



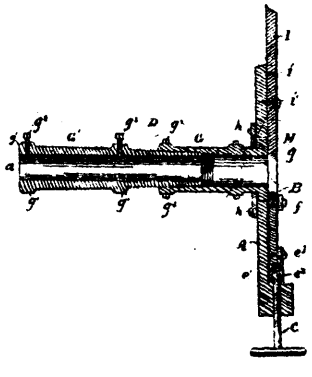
38169 Rettiger's Stone Cutting Machine.



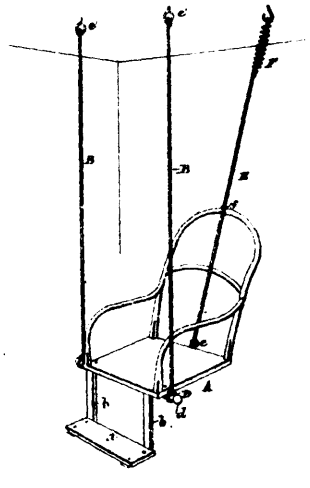
38170 Rae's Armature for Dynamo Electric Machines and Motors.



38171 Heroux's Accompanying Methods for Musical Instruments having Key Boards.



38172 Diebel's Cutter for Rods and Pipes.



38173 Eller's Swinging Chair.