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CONTENTS.

INVENTIONS PATENTED	109
INDEX OF INVENTIONS	CXVII
INDEX OF PATENTEES	CXVIII
ILLUSTRATIONS	119

INVENTIONS PATENTED.

No. 11,303. Improvements on Bakers' Ovens.

(*Perfectionnements aux fours des boulangers.*)

George Brake, Lansing, Mich., U. S., 1st June, 1880; for 5 years.

Claim 1st.—A bakers' oven constructed with baking portion A, layer C of non-conducting material between the floor and the lower heating flues D, non-conducting top E, division wall F and sliding doors N; 2nd. Layers of non-conducting material between the top and bottom of the baking portion of the oven and the upper and lower heating flues respectively, whereby the temperature of the oven is equalized; 3rd. The division wall F between the fire place and the baking portion of the oven, whereby the products of combustion are prevented from entering the said baking portion of the oven; 4th. The combination with the flues D D, of the division wall L provided with opening h; 5th. The combination with the baking oven A, of the laterally sliding doors N N provided with rollers m m, whereby the whole front of said oven may be thrown open; 6th. The lower heating flues D D in combination with the fire-place F.

No. 11,304. Improvements on Cross-Cut Saws.

(*Perfectionnements aux scies de traveurs.*)

Asa Wilkins, Cincinnati, Ohio, U. S., 1st June, 1880; for 5 years.

Claim.—1st. The sawing machine frame, the gears J K mounted therein, the hand lever L, treadles N combined with the gears, and the means for transmitting the motion of the gear to a saw, for cutting down a standing tree, or a saw for cutting a prostrate tree, or other wood, into lengths; 2nd. The combination of the hand lever L and treadles N with the gears J K; 3rd. The combination of the gearing J K operated by the hand lever and treadles, with the pitman and cross head for reciprocating the saw to cut a standing tree; 4th. The combination of the gearing J K operated by the hand lever and treadles with the pitman and pendant bar A, for reciprocating the saw, to cut a prostrate tree, or other wood; 5th. The combination of the weighted carriage and the guide way, with the saw for feeding the latter into a standing tree.

No. 11,305. Improvements on Pumps.

(*Perfectionnements aux pompes.*)

Samuel Buschlen, Port Elgin, Ont., 1st June, 1880; for 5 years.

Claim.—The combination of pump stock A, lever C, fulcrumed through its bore, and pump rods E F working therein, having outward bent extremities connecting with said lever to operate the buckets H G in cylinder B.

No. 11,306. Improvements on Tubular Rivets.

(*Perfectionnements aux rivets tubulaires.*)

George W. Tucker, Waterbury, Ct., U. S., 1st June, 1880; for 5 years.

Claim.—1st. Forming a blank with distended ends, and then drawing the same into a tube and bending the widened ends to form the flange, 2nd. Forming a blank with distended ends and then drawing the same into a tube and bending the widened ends, to form the flange and perforating and spreading the closed end; 3rd. A tubular eyelet or rivet consisting of a flanged tube, split for a part of its length, with the flange on the split end, and a cap secured to the flanged end.

No. 11,307. Improvements in Corsets.

(*Perfectionnements dans les corsets.*)

Everett W. Bigelow, Boston, Mass., U. S., 1st June, 1880, for 5 years.

Claim.—1st. In a duplex busked corset, the underlapped portion, steel or busk provided with buttons, in combination with the overlapping or other

portion provided with button holes arranged next or alongside of the busk or busk pocket of such portion; 2nd. The underlapped portion, steel or busk having buttons, in combination with the fellow or overlapping portion provided with two busk pockets and steels therein, and with flexible button holes arranged between and next and alongside of such pockets; 3rd. The combination of the two busk pocket pieces with the intermediate connection pieces arranged and applied so as, with the said pocket pieces, to form button holes between them.

No. 11,308. Process of Separating Potash from Ashes.

(*Procédé pour séparer la potasse des cendres.*)

Jordan Woodrum, Poages Mills, Va., U. S., 1st June, 1880; for 5 years.

Claim.—Heating the whole quantity of ashes from which the potash is to be extracted to a high temperature, say, a red heat, and then applying water at boiling heat to said ashes while thus heated, and allowing the water to percolate through the mass, to dissolve and carry off the potash.

No. 11,309. Medical Compound.

(*Composé médicinal.*)

William Dalrymple, Corinth, Ont., 1st June, 1880; for 5 years.

Claim.—A compound of iodine of potash, salts of ammonia, tincture of tulu and white sugar, in the proportion of one-half ounce each of the first three, and one half pound of the latter, to form one pint of the compound.

No. 11,310. Improvements on Blind Hinges.

(*Perfectionnements aux pentures des persiennes.*)

Tom O. Memery, Key West, Fla., 1st June, 1880; for 5 years.

Claim.—The combination of the plate a, the pintle b, the vertically slotted balls c d, and the nut f, screwing on the top of said pintle with the plate g, and the pintle h, having conical head k.

No. 11,311. Improvements on Wire Springs.

(*Perfectionnements aux ressorts en fil de fer.*)

Nicholas Jenkins, New Haven, Ct., U. S., 1st June, 1880; for 5 years.

Claim.—1st. The tension spring composed of hard wires braided together at about the angle described, so as to constitute a stretching or tensional spring; 2nd. A stiffener, for dresses and other purposes, made of elastic wire braided or woven together; 3rd. A compound metallic spring, made of a size adapted for use in dresses, composed of three or more elastic wires, woven or braided together and having the ends brought together and finished with solder; 4th. A double metallic spring having two separate sets of braided or woven wires a¹ a² a³, one within the other, with the ends united by solder A* so as to combine the whole rigidly and present a smooth rounded end; 5th. The soldering clamps composed of the base plate D, guide D¹ D², top piece E and holding means Et; 6th. The combination of a series of soldering clamps D E with a tension device G G¹, and a take up device N N, adapted for joint operation relatively to each other and to a series of springs A; 7th. The braided wire spring A, with terminal caps compressed thereon; 8th. The braided wire spring A with terminal caps B and solder A*; 9th. The spring composed of hard elastic wire a¹ a² braided together, in combination with terminal pieces K strongly united; 10th. The bird perch composed of braided elastic wires a¹ a², in combination with each other and with claw formed ends K, adapted for ready attachment to the bars of the bird cage; 11th. A set of braided elastic wires a¹ a², in combination with terminal pieces K³ and rings F; 12th. An irregular tube of braided elastic wires a¹ a² presenting enlargement and contractions; 13th. The method of producing swelled tubes of elastic wire by braiding the same over a former having the desired swelled contour and removing the former through the interstices of the wires by subsequent melting; 14th. Toilet and fancy articles composed of the braided elastic wire springs A fastened together; 15th. A braiding machine in combination with a series of properly guided carriers K carrying spool and guides, the tension springs T exerting an endwise friction on the spool, 16th. In combination with one or both the stop levers W W¹, the stop weight U carried on the guide rod R³ forced to rest on the wire a after it has past a guide hole, and at a distance from the guide; 17th. The flattening surfaces of rollers g¹ g² arranged to guide the wires a at the point where they are braided together, so as to cause the braid to be produced in a plane condition; 18th. The spring T and abutting means K⁴, in combination with the rollers g¹ g² and with the car-

fiers R and their connections, and suitable take up mechanism; 19th. The fixed guide X in combination with the flattening rollers $y_1 y_2$, carriers R with their bobbins Q traversed thereon, and with a suitable take up mechanism.

No. 11,312. Method and Apparatus for Grinding and Purifying Grain. (*Procédé et appareil pour mouliner et épurer les grains.*)

George Milbank, Chillicothe, Mo., U. S., 1st June, 1880; for 5 years.

Claim.—1st. The method of reducing grain or other substances in subjecting the material under treatment to the action of reducing discs and an air current simultaneously, the said air current passing between the discs and conveying the reduced material in opposition to the centrifugal action of the same; 2nd. In subjecting the material under treatment to the action of reducing discs and an air current simultaneously, the said current passing between the discs and conveying the reduced material in opposition to the action of the dress of the same; 3rd. In subjecting the material under treatment to the action of reducing surfaces set in a plane other than the horizontal and an air current simultaneously, the said air current passing between the reducing surfaces and conveying the reduced material in opposition to the action of gravitation; 4th. In subjecting the material under treatment to the action of reducing discs and an air current simultaneously, the dress of the reducing discs and the air current combined conveying the reduced material in opposition to the centrifugal action; 5th. In subjecting the material under treatment to the action of reducing discs having reducing surfaces inclined from the horizontal, and an air current simultaneously, the dress of the inclined discs and the air current combined conveying the reduced material in opposition to the action of gravitation; 6th. In combination with reducing discs A A', the casing D and fan mechanism connected therewith, the construction being such that an air current is delivered by the fan mechanism to the periphery of the discs and through between the same to the eye; 7th. In combination with the reducing discs A A' an interior chamber and fan mechanism connected with the chamber, the construction being such that an air current may be drawn through between the discs from the periphery to the eye; 8th. The combination with the reducing discs having the periphery of the grinding surfaces higher than the eye of mechanism for producing an air current, the construction being such that the action of the current is opposed to the action of gravitation; 9th. The combination with the reducing discs having the periphery of the grinding surfaces lower than the eye of mechanism for producing an air current, the construction being such that the air current is opposed to the action of gravitation; 10th. The receiving chamber B located in the reducing discs and in open unbroken communication with the eye of the same, in combination with mechanism for reducing the grain or other substance and mechanism for producing an air current, and thereby delivering the receiving chamber in opposition to the centrifugal action of the reducing discs; 11th. In combination with the reducing discs delivering material at the eye and mechanism for producing an upward air current, the deflector C for breaking up or dividing the current; 12th. Passing the material between the reducing discs with an air current opposed to the centrifugal action, and in carrying upward from the eye the lighter particles by an ascending air current, by means of which action the heavy and light particles are separated before being baled; 13th. In combination with the reducing discs A A', the feed hopper F, the spout E or G with casing D and fan mechanism, whereby the feed is passed over the upper discs and simultaneously an air current passed between the grinding faces to move the reduced materials in opposition to centrifugal action; 14th. In combination with the reducing discs A A' provided with an internal receiving chamber B and fan mechanism, the drum or discs a fitted in the chamber B; 15th. The disc A' provided with the opening or openings k and fitted with the annular flange k' , the construction being such that the feed passes by the openings k to the grinding faces, and the air current produced by suitable means passes from the periphery to the eye, to remove the reduced particles toward the centre; 16th. The revolving grinding wheel m shaped as the frustum of a cone, and the casing m' combined together and fitted with the feed spout and pipe for supplying an air current between the grinding surfaces; 17th. The grinding cylinder p fitted for revolution and the fixed cylindrical casing p' open at both ends and provided with a feed spout combined together when said apparatus is placed horizontally or inclined, and air current caused to pass in either direction for removing the reduced particles; 18th. The discs $o o'$ fitted in relation to each other and vibrated when the feed and ascending air currents are supplied, for the purpose of removing the finer particles by air currents in opposition to gravitation; 19th. The combination with the reducing discs having horizontal grinding faces of mechanism for producing an air current for the purpose of moving the reduced material towards the centre, whereby the action of the air current is opposed to the centrifugal action; 20th. The method of removing the reduced particles from between grinding cylinders or cones constructed for operation as shown, that is by an air current passed between the grinding faces in either direction; 21st. In combination with the vertical reducing cylinder A and L, the flange k and openings H, for directing the feed between the grinding faces and the fan mechanism connected therewith, the construction being such that the air currents pass upward to remove the reduced particles; 22d. The reducing disc formed with peripheral furrows s and unfurrowed portion around the eye.

No. 11,313. Improvements on Grain Binders.

(*Perfectionnements aux lièures à grain.*)

Christopher W. Levalley, St. Paul, Min., U. S., 1st June, 1880; for 15 years.

Claim.—1st. The combination with the binder frame formed with the brackets C; C' and the inner bar C, projecting beyond one of the brackets, of the main frame and hooks B B' and the rack c , so that the front bracket shall be outside of the hook B, and the rear bracket shall be inside of the hook B; 2nd. The combination of an oscillating frame, a needle pivoted to said frame, and mechanism which throws the needle pivot through a greater arc while the needle is descending, than while it is rising; 3rd. A crank arm G3 and the needle frame, in combination with the bell crank lever H, whereby the crank pin engages with the lever near the lever's pivot while the needle is descending than when it is rising; 4th. The combination of the crank arm G3, bell crank lever H, link h and the needle frame; 5th. The combination with the segment I, the arm and rack I' and crank arm G1, of the frame I2 and arm i ; 6th. As a means for supplying bands to the needle of a grain binder, a cord formed into convolutions, from which, when in operation, the inner convolutions are first delivered to the needles,

in combination with a shaft or spindle which is free at the end from which the cord passes as it is unwinding; 7th. A shaft arranged within the binding cord, said shaft being free to vibrate at the end from which the cord is delivered; 8th. A shaft or spindle which supports the cord and is secured at one end by a flexible joint; 9th. The combination with the spindle Mx and inclosing cylinder M, of the cap or cover provided with a central opening through which the cord is delivered; 10th. The combination with the support M1, provided with the stops $m_2 m_3$, of a pivoted arm M2 and spring m_1 ; 11th. The combination of the support M1, provided with the stops $m_2 m_3$, the vibrating arm M2, springs m_1 and the tension plate m_3 ; 12th. The combination of an eccentrically revolving loop former, a holder which grasps the cut end of the cord, mechanism which moves the loop former during part of its rotation toward the cord holder and mechanism which at the same time moves the cord holder toward the loop former; 13th. The combination of the eccentrically revolving loop former, a cord holder which grasps the cut end of the cord, mechanism which moves the loop holder during part of its revolution away from the cord holder and mechanism which at the same time moves the cord holder toward the loop holder; 14th. The combination of an eccentrically revolving loop former, a cord holder which grasps the cut end of the cord, mechanism which moves the cord holder toward the loop holder, and mechanism which severs the cord after the loop has been made; 15th. The combination with an eccentrically revolving loop former, of a hook arranged within the loop holder and rotated thereby, the loop holder also being rotated independently of the hook; 16th. In combination with the loop former, the hook pt , having its outer surface curved and adapted to pass the two strands of the cord to the hook r ; 17th. The combination with the hook pt , of the longitudinally reciprocating rod qt , provided with the guide hook q^5 and situated substantially parallel to the axis of said hook pt ; 18th. The combination with the hook pt , of the reciprocating tube Q, and the guide arm q^3 , reciprocating simultaneously with the tube; 19th. The combination of the tube Q, hook pt and hook rod R revolving with the tube, the tube also revolving independently of the hook; 20th. The combination with the loop forming tube Q, of a reciprocating and revolving hook r and a stop which holds the point of the hook toward the point of the needle, to receive the clamped end of the twist; 21st. The combination with the loop forming tube Q, of a reciprocating and revolving hook r and a stop which locks the hook in position with its point upward; 22nd. The combination with the hook rod R, of the bent lever R1, pinion P1, hollow shaft Q, spring R2, collar r_3 and dog r_2 , adapted to engage with the stops; 23rd. In combination with the binding cord, mechanism adapted to throw the knife out of action; 24th. In combination with the binding cord, the holder which grasps the cut end of the cord, and the devices which move a part of the cord holder to release the cord, mechanism which throws said cord releasing devices out of operation; 25th. The combination of a cord holder which grips the cut end of the cord, mechanism which alternately opens and closes the cord holder, and mechanism actuated by the cord to throw out of action the devices which open the cord holder; 26th. A cord cutting and clamping mechanism, one part of which carries an adjustable cutting knife, the other part being provided with a fixed stop to determine the position to which the knife shall be adjusted; 27th. The combination of the cam-wheel F, rock shaft S, crank S5, pitman S6, bar W, bent lever S7, and returning spring S7; 28th. The combination of a reciprocating tubular looper, a reciprocating knot-hook and a cord holder, one member of which is attached to the reciprocating shaft or bar, all of which parts reciprocate on substantially parallel planes and are thereby adapted to be operated from the face of a single wheel, which revolves in a plane at right angles to the planes in which they reciprocate; 29th. The combination with an eccentrically revolving hook, of a reciprocating loop former which closes the open end of the hook, thereby forming a tight eye in which the cord is retained while the loop is being formed; 30th. The combination with the main frame and the hinged shields Z1 Z2, of the horizontally projecting slotted bracket Z3 Z4, and the thumb screw; 31st. In combination with the shield Z1, the supplementary shield Z4 hinged thereto; 32nd. In combination with a cord holder which grasps the cut end of the cord, and devices which release the cord from the holder, mechanism which automatically throws the cord releasing devices out of action and mechanism which automatically returns them into action; 33rd. In combination with a knife or cord cutter and devices which cause said cutter to sever the cord, mechanism which automatically throws said cutter actuating devices out of action, and mechanism which automatically returns them into working relations with the cutter.

No. 11,314. Improvements in Car Brakes.

(*Perfectionnements aux freins des chars.*)

George Smith, Stratford, Ont., 1st June, 1880; (Extension of Patent No. 10,852.)

No. 11,315. Improvements in Car Brakes.

(*Perfectionnements aux freins des chars.*)

George Smith, Stratford, Ont., 2nd June, 1880; (Extension of Patent No. 10,852.)

No. 11,316. Improvements on Heating Stoves.

(*Perfectionnements aux poêles de chauffage.*)

William Buck and Judson W. Buck, Brantford, Ont., 2nd June, 1880; (Extension of Patent No. 4,810.)

No. 11,317. Street Car Fare Box. (*Tronc de char de chemin de fer urbain.*)

Leonard Maltus, Hamilton, Ont., 3rd June, 1880; (Extension of Patent No. 4,814.)

No. 11,318. Combined Mattress and Bed Bottom. (*Matelas et fond de lit combinés.*)

Isaac Mills, Hamilton, Ont., 5th June, 1880; for 5 years.

Claim.—The rollers B F, in connection with the ratchet A, dog E, cross slat D and bearings C G, forming the device or apparatus secured to the bed rails H, for the purpose of stretching and holding the canvas I, to form a bed bottom, and inside of which a mattress is placed.

No. 11,319. Improvements on Harrows. (*Perfectionnements aux herses.*)

William Vallely, jr., (Assignee of Adolph Lajeunesse), San Francisco, Cal., U. S., 5th June, 1880; for 5 years.

Claim—The teeth B having tapering shanks and screw-threaded ends, in combination with the frame A and metal lined sockets d and nuts e; 2nd. The combination with the harrow-frame A and clearing-frame C, of the racks G toothed sectors H, rockshaft J, arm K, connecting bar M and lever L.

No. 11,320. Improvements on Churns. (*Perfectionnements aux barattes.*)

James L. Sprague, Minneapolis, Min., U. S., 5th June, 1880; for 5 years.

Claim—1st. The concave cover B and the three air tubes set in its crown or top; 2nd. The bands I, having the terminal screws d and their nuts e, the bars G having recessed and perforated ends c, and the churn legs H and body A, all combined.

No. 11,321. Composition for Protecting Ships Bottoms. (*Composé pour protéger les fonds des navires.*)

Robert H. Seaton, Weston Super Mare, Robert W. Hart, Wakefield, and Ernest B. B. George, Notting Hill, Eng., 5th June, 1880; for 5 years.

Claim—The employment of naphtha, linseed or other boiled oil, and gutta percha, in conjunction with ordinary colors or paints, or in conjunction with litharge, vegetable oil, methylated finish, shellac and resinous matter.

No. 11,322. Apparatus for Securing Boiler Tubes. (*Appareil pour assujétir les tubes des chaudières.*)

William Tully, London, Eng., 5th June, 1880; for 5 years.

Claim—The apparatus or implement adapted to operate by hydraulic power, atmospheric air, or other elastic fluids, for expanding boiler tubes or similar articles; 2nd. In an apparatus for expanding boiler tubes and for similar purposes, a cylinder provided with a mandrel and with lugs or segments arranged to slide laterally outward, under the pressure of the mandrel; 3rd. In an apparatus designed to operate by hydraulic power for expanding boiler tubes, and for similar purposes, a cylinder A made in three sections a b c, provided with a mandrel e having a conical end, lugs or segments f and with a rod d, and suitable valves and passages, whereby the liquid may be caused to force the mandrel forward or withdraw the same; 4th. In combination with the rod d, provided with the aperture dt, the pipe d₁ and valve d₂, the channels g g₁ h₂, in the cylinder A, the covering b₂, provided with the apertures h h₁, the space h², the screw plugs i i₁, and the plug a₂ fitted with the valve a₃; 5th. Providing the cylinder A with the chambers a₁ b₁, and with the covering b₂ and diaphragm b₃; 6th. The cylinder m open at one end, in combination with the hollow mandrel e, the lugs or segments f and the rod d; 7th. In an apparatus for expanding boiler tubes and similar articles by hydraulic power, the employment of a hollow mandrel e, provided at its rear portion with a chamber e₀, and with means for causing the liquid to pass from this chamber to the interior of the cylinder and from the cylinder to the chamber, as required; 8th. Providing the hollow mandrel e, with a channel o in its wall, to afford communication between the interior of the cylinder m and the chamber e₀, so that the liquid, after having been forced into the cylinder m, may be readily returned to the chamber e₀, to allow the mandrel to descend and relieve the segments f from pressure; 9th. In an apparatus for expanding tubes or similar articles, the nut f₁ for producing an outward movement of the sliding segments f, in combination with the hollow mandrel e which, in its backward movement, imparts a rotary motion to such segments; 10th. In an apparatus or implement designed to be operated by means of a screw or other suitable means for expanding tubes or similar articles, and consisting of a cylinder A in two parts or sections b c, a mandrel e with a conical end, sliding lugs or segments f, screw-rod p and collar p₂; 11th. The combination with the subject matter of the preceding claim, of the screw-rod p₃ for imparting a preliminary lateral movement to the segments f, before applying excessive pressure upon the same, through the medium of the screw-rod p; 12th. The modified forms of the improved apparatus; 13th. The modification of the apparatus, consisting in the cylinder A, the screw-rod q, the expanding pieces f and the collar or cap r; 14th. A mandrel provided with inclined projections, or ribs e*, arranged in combination with a cylinder, a portion of which has corresponding grooves e².

No. 11,323. Improvements on Looms. (*Perfectionnements aux métiers à tisser.*)

Christopher Cross, Manchester, Eng., 5th June, 1880; for 5 years.

Claim—1st. The apparatus for the positive and accurate delivery of the "lap welt," or "whip threads," for forming the colored borders; 2nd. The apparatus for stopping the loom when either of the "lap threads" break; 3rd. Weaving piled or plush borders to "loongees" or other ornamental fabrics, by so arranging the "tie up" that the drams for cutting the pile be across the cloth, instead of lengthwise; 4th. Weaving ornamental cashmere borders to "loongees" or other ornamental fabrics, by the employment of "tie ups," which show the warp thread only and conceal the welt; 5th. The method of weaving either fringed or scalloped selvages; 6th. The method and apparatus for weaving ornamental colored headings across the fabric.

No. 11,324. Improvements on Cotton Canvas Belts and Machinery for their Manufacture. (*Perfectionnements aux courroies en toile de coton et machine pour les fabriquer.*)

Maurice Gandy, Liverpool, Eng., 5th June, 1880; for 5 years.

Claim. 1st. A belt possessing the following composition and character-

istics: 1st. A foundation consisting of cotton canvas, composed of warp stouter than the welt, both warp and welt hard spun, and the canvas hard or light woven; 2nd. A foundation composed of canvas thus made, folded upon the line of its warp, and the folds united by rows of longitudinal stitching and stretched to kill the elasticity; 3rd. The interstices and fibre of a structure thus made, saturated with, and full of, linseed oil, or any mixture of linseed oil, or a compound of oil and resin, or tallow and resin; 4th. The structure thus saturated and pressed, full of oil, or other compound, pressed and stretched rigid, hard and even, and the elasticity nullified or killed. 2nd. The mechanical process of manufacturing canvas belts, the sewing the belt while under tension and the pressing and stretching of the belt, after its treatment with oil, between rollers in combination with stretching nippers, or between double sets of rollers running at differential speeds for the purpose of forcing the oil into the interstices and fibre of the fabric and for the purpose of stretching and pressing the belt, hard, even and rigid, and nullifying and killing elasticity; 3rd. The mechanical appliances for sewing belts under tension; 4th. The mechanical appliances for oiling, stretching and pressing belts.

No. 11,325. Improvements on Leather Finishing Machines. (*Perfectionnements aux machines à finir le cuir.*)

Fred B. Batchelder, East Boston, Mass., U. S., 5th June, 1880; for 5 years.

Claim. 1st. The combination with the cylinder B, of a spring pressed knife or scraper Z, provided with a receiving channel Cr, so that any mixture or substance that adheres to the surface of the cylinder will be removed, and the under side of the leather thus kept clean; 2nd. The combination with the cylinder B and the knife Z, of a spring pressed trough D₁, provided with a wiping plate Er, of leather, rubber or other suitable material, to wipe off and receive any substances that may escape the knife Z; 3rd. The combination with the roller L, brush M and cylinder B, of the springs G, so that the roller L and brush M will have a yielding pressure against the leather on the cylinder B; 4th. The combination with the cylinder B, roller L, brush M and springs G, of the screws H, hand nuts I and springs J, so that the pressure of the springs G may be regulated as required; 5th. The combination with the brush M that applies the mixture to the leather of the hopper O, having open forward end, and the roller N, whereby the mixture is taken from the hopper O and applied to the brush M; 6th. The combination with the hopper O, the roller N and the brush M, of the guard plate R, whereby any drippings from the hopper O or roller N are conducted to the brush M; 7th. The combination with the brush M, of the curved guard plate W—having channel or trough X, whereby the splatterings of the mixture from the brush M are received and guided to a receiver; 8th. The combination with the brush M, of the wheel or collar S, having cam groove and the pin T, to give the rotating M, a reciprocating longitudinal movement; 9th. The combination with the cylinder B, of the endless belt brush U, to smooth off the applied mixture and remove impurities; 10th. The combination of the cylinder B, roller L, brush M, roller N, hopper O, endless belt brush U, and cleaning devices Z Cr Er D₁, so that a blacking or other mixture can be applied to surfaces of leather while the opposite surfaces are kept practically clean.

No. 11,326. Improvements on Shirt Buttons. (*Perfectionnements aux boutons des chemises.*)

Charles Robinson and Samuel W. Downey, Toronto, Ont., 5th June 1880; for 5 years.

Claim. 1st. The combination with a fixed retaining prong formed of a movable prong; 2nd. The combination with the fixed retaining prong B and stud head provided with the projections C D, of the movable prong Br provided with the spring arm B; 3rd. A retaining cross bar for studs, one half of which is fixed and the other half movable.

No. 11,227. Improvements on Shoes. (*Perfectionnements aux souliers.*)

Charles M. Lee, Athol, Mass., U.S., 5th June, 1880; for 5 years.

Claim. 1st. A shoe-vamp provided at its toe-end with a projecting tongue Q and having, at each side of the said tongue, a concavity extended backward and terminating at the point X; 2nd. A vamp provided with a projecting toe-tongue Q, crimped upon the bottom of the inner sole or last at its toe-end, and with spaces at each side of the said toe-end, a tip b connected with the vamp by a row of stitches, the end Q of the said vamp being connected with the sole and tip by the line of stitches uniting them at the extreme end of the toe part of the sole, the vamp from each side of the toe-tongue Q, to the point where the vamp and tip are united, being left unattached to the sole by the line of stitches connecting it and the tip.

No. 11,328. Improvements on Steam Engines. (*Perfectionnements aux machines à vapeur.*)

John Haggart and Roderick Cochrane, Brampton, Ont., (assignees of John E. Sweet, Syracuse, N. Y., U. S.); 4th June, 1880; for 5 years.

Claim—1st. A double ended piston slide valve having ground chilled wearing surfaces; 2nd. A double ended piston slide valve having ground chilled wearing surfaces on the heads D and chambers B within the said head; 3rd. A double ended piston slide valve having ground chilled wearing surfaces on the heads D and chambers within the said heads, in combination with the spindle C passing loosely through the body piece D and provided with jamb nuts E.

No. 11,329. Improvements on Heel Stiffeners. (*Perfectionnements aux contreforts des talons.*)

Hiram G. Farr, Brandon, Vt., and Henry C Copeland, New-York, U. S., 5th June, 1880; for 5 years.

Claim.—The parts A B C D, the part B being intermediate and of wood, arranged with its fibre running longitudinally of the stiffener, all cemented together.

No. 11,330. Improvements on Telegraphs and Telephones. (*Perfectionnements aux télégraphes et aux téléphones.*)

Thomas A. Watson, Everett, and Charles Williams, jr., Boston, Mass., U. S., 5th June, 1880; for 5 years.

Claim.—1st. A switch board, for telegraphic or telephonic purposes, having a series of conducting strips, each of which is connected to one of the circuits of the system, a series of conducting strips crossing or crossed by the strips which are connected to the circuits, and a series of metallic connectors or contacts, each of which is connected to one of the strips of one series is capable of being moved into contact with the strips of the other series and, when released by the operator, is automatically forced against and maintained in contact with said strip; 2nd. The combination of a series of conducting strips, each of which is connected to a circuit, a series of insulated metallic rods or plates, one for each strip, each connected to an annunciator, or other device for receiving signals, and a series of movable metallic connectors or contacts, each connected, respectively, to a strip connected to a circuit and capable of being connected to the corresponding metallic rod or plate; 3rd. The combination with the switch board, having a series of conducting strips, crossed by another series of conducting strips and having a series of movable metallic connectors for connecting the strips of one series to the strips of the other series, of a telephonic apparatus and signalling apparatus, either of which may be connected at will to one or more of the strips of one series, and to one or more of the strips of the other series by means of the movable metallic connectors; 4th. The combination of the metallic parallel bars B B, each connected to a circuit, the parallel rods C C, arranged under the rods B B, at right angles to the same, and the metallic connectors C C, each sliding on one of the rods B and capable of being forced against, and maintained in contact with the rods C C, when released by the operator; 5th. The combination with the bar B, of the slotted rod D, or its equivalent, and the spiral spring G, or its equivalent, on said rod; 6th. The combination with the cylindrical rod C, of the rod D, or its equivalent, provided with a notch in the lower end of the same; 7th. The combination with the rod C of the sliding rod D, and pointer K on the same; 8th. The combination with the rod B, of the rod D, on the same, and the bent piece H inserted in the rod D.

No. 11,331. Improvements on Vehicle Axles.

(*Perfectionnements aux essieux des voitures.*)

Elias A. Wible, Folsom, Cal., U. S., 5th June, 1880; for 5 years.

Claim.—1st. The axle formed of the tube A, provided with the sockets a on the ends, to form boxes for the bearings of the spindle-shafts and curved or arched to the centre to give the proper set to the wheels, and the wooden stock B combined with the interposed sheet or layer of rubber b, to form a cushion, the said parts being secured together by clips c; 2nd. The combination of the grooved sleeve, set screw, clip having cross-bar and tubular axle, whereby the set screw works in a groove of sleeve and serves the double purpose of holding the sleeve to the axle and drawing upward on the clip.

No. 11,332. Improvements on Car Coupling.

(*Perfectionnements aux atlag's de chars.*)

William P. Cutter, Everett, Mass., U. S., 5th June 1880; for 5 years.

Claim.—The combination of the slotted draw-bar d, jointed to the fulcrum bolt e, the oscillating frame b and the yielding springs g, h, i, i.

No. 11,333. Improvements in Spring Beds.

(*Perfectionnements aux lits à ressorts.*)

Henry B. Clark, Toronto, Ont., 5th June 1880; for 5 years.

Claim.—The spiral spring A properly attached, in connection with the braces or springs B B and bolt D.

No. 11,334. Machine for Attaching and Trimming Heels (*Machine à poser et finir les talons.*)

James W. Brooks, Boston, (assignee of Hadley P. Fairfield, Boston, Gordon McKay, Cambridge, and Charles W. Glidden, Lynn,) Mass., U. S., 5th June, 1880; (extension of patent No. 5,366).

No. 11,335. Machine for Attaching and Trimming Heels. (*Machine à poser et finir les talons.*)

James W. Brooks, Boston, (assignee of Hadley P. Fairfield, Boston, Gordon McKay, Cambridge, and Charles W. Glidden, Lynn,) Mass., U. S., 6th June 1880; (extension of patent No. 5,360).

No. 11,336. Machine for Trimming Heels.

(*Machine à finir les talons.*)

James W. Brooks, Boston, (assignee of Charles W. Glidden, Lynn, and Stephen A. Simmons, Lawrence,) Mass., U. S., 6th June 1880; (extension of patent No. 5,353.)

No. 11,337. Heeling Machine. (*Machine à talons.*)

James W. Brooks, Boston, (assignee of Alvin D. Elliott, George E. Fellows and Stephen A. Simmons, Lawrence,) Mass., U. S., 6th June 1880; (extension of patent No. 5,359.)

No. 11,338. Machine for Trimming Heels. (*Machine à finir les talons.*)

James W. Brooks, Boston, (assignee of Charles W. Glidden, Lynn, and Stephen A. Simmons, Lawrence,) Mass., U. S., 7th June, 1880; (extension of patent No. 5,358.)

No. 11,339. Heeling Machine. (*Machine à talons.*)

James W. Brooks, Boston, (assignee of Alvin D. Elliott, George E. Fellows and Stephen A. Simmons, Lawrence,) Mass., U. S., 7th June 1880; extension of patent No. 5,359.)

No. 11,340. Improvements on Railway Rails, and Tools and apparatus for the same. (*Perfectionnements aux lisses des chemins de fer, et outils et appareil pour cet objet.*)

Stephen W. Balwin, Yonkers, N. Y., U. S., 8th June, 1880; for 15 years.

Claim.—1st. The improvement in converting rail ends into "billets" by subjecting them to compression or percussion applied in lines at right angles to the plane of the "web" while the rail end is confined against bodily movement; 2nd. Converting rail-ends into "billets" by subjecting the foot or the head of the rail-end, or both of them, either simultaneously or consecutively, to compression or percussion, applied in lines at right angles to the plane of the "web" of the rail end, while the web of the rail-end is firmly confined against all lateral or longitudinal movement; 3rd. The combination with jaws for clamping a rail-end by its "web," and suitable mechanism for operating said jaws, of a pair of dies, scored to receive the edge of the foot of a rail-end and suitable mechanism for operating said dies, for upsetting the foot; 4th. The combination with clamping jaws for holding a rail end by its "web," of a pair of dies adapted to reduce the head of a rail-end, in a plane corresponding with that of the "web," and suitable mechanism for operating the jaws and dies; 5th. The combination with a pair of longitudinally scored "foot" dies, and a pair of "head" working dies, of clamping jaws interposed between them, and suitable mechanism for operating the jaws and dies; 6th. The combination with clamping jaws and one or more pairs of compressing dies for working rail ends into "billets," of a system of levers, and a separate steam or hydraulic operating cylinder for the jaws, and for each pair of dies, whereby the jaws and the pairs of dies may be separately operated; 7th. The combination with suitable operating mechanism, a pair of clamping jaws adapted to firmly clamp a rail-end by its "web," a pair of longitudinally scored "foot" dies, and a pair of inclined face head dies and a pair of finishing "foot" dies, and a pair of finishing "head" dies; 8th. The combination with suitable operating mechanism, a pair of initial dies for working on a rail-end "foot" or "head," and a pair of finishing dies for working on a rail-end "foot" or "head," of clamping jaws common to all the dies, whereby one of the jaws may operate as a bed, on which a partially formed "billet" may be supported while being pushed from one pair of dies to the other; 9th. The combination with suitable operating mechanism and clamping jaws, of four sets of dies simultaneously operated, whereby the "foot" and "head" of a rail-end may be partially worked in the forming of a "billet," by two sets of dies, while the finishing operation is performed by the other two sets of dies.

No. 11,341. Improvements in Saw Mills. (*Perfectionnements dans les scieries.*)

De Witt C. Prescott, Marinette, Wis., U. S., 9th June, 1880; for 5 years.

Claim.—1st. The log carriage in combination with a steam cylinder of about the same length as the greatest distance to be traversed by the carriage, and provided with a piston and piston rod, and the steam valve either the cylinder or the piston rod being connected directly with the carriage; 2nd. The log carriage in combination with a steam cylinder of about the same length as the greatest rim of the carriage, a piston fitted within the cylinder and connected directly with the carriage, the steam valve and mechanism, whereby the motion of the carriage and operation of the steam feeding device may be regulated; 3rd. The steam cylinder A, in combination with the piston D, piston-rod E, bracket G attached to the log carriage F, valve chest I, provided with the valve K_r and supply and exhaust ports, and hand lever L_r connected with the valve stem; 4th. The valve chest I, in combination with the cylinder A, provided with the passages H h H₁ h₁, the valve seat K and the valve K_r so constructed that the exhaustion of steam is into the exhaust pipe through the end of the valve seat and not through the valve; 5th. The cylinder A, provided with the passages H h H₁ h₁, in combination with the valve chest I, valve seat K, having the grooves K₁ K₂, the valve K_r constructed as described, and the supply part h₂ so placed as to open only into the tubular portion of the valve, so that the supply of steam is through the tubular portion of the valve and the exhaustion around the valve.

No. 11,342. Improvements on Valises, &c.

(*Perfectionnements aux valises, etc.*)

Warren K. Crofford and John W. Van Dyke, Grimsby, Ont., 9th June, 1880; for 5 years.

Claim.—1st. The combination of the grip handle a, draw string bb, wooden slats c, c, c, &c., curtain and lining e, e, e, pockets f, f, fasteners g, g, leather straps h, h, h, tacks or rivets i, i, i, and elastic straps k, k, k.

No. 11,343. Improvements in Boots and Shoes. (*Perfectionnements dans les chaussures.*)

John C. Daggett, Neponset, Mass., U. S., 9th June, 1880; for 5 years.

Claim.—1st. A boot or shoe having an upper made of leather and provided with a lining of cloth cemented thereto.

No. 11,344. Improvements in Grain Separators. (*Perfectionnements aux séparateurs des grains.*)

John Bennett, Lucknow, Ont., 9th June, 1880; for 5 years.

Claim.—1st. The combination of the screens c c, with a slotted distributing board; 2nd. The combination of the screens c c having a slotted distributing board, and one or more with an imperforate bottom and deflectors or cleats with the shoe A having the lateral openings e e; 3rd. The combination of the screens E E, slotted distributing board F, board g, deflector and side openings h in the shoe A from the bottom E₂; 4th. The combination of

the screens E E₁ with the slotted distributing board F; 5th. The combination with the screens E in the shoe A, of the grain board having a door; 6th. In combination, the cockle tubes K and deflectors, with the imperforate bottomed screens J J₁ J₂ and intermediate chambers; 7th. The combination of the slotted distributing board I, partition boards a, cockle screens J J₁ J₂ furnished with imperforated bottoms l l₁, deflectors and tubes K, bevelled cleat m and shoe I.

No. 11,345. Improvements in Mowing Machines. (*Perfectionnements aux moissonneuses.*)

James E. Thomas, West Bay, Mich., U. S., 9th June, 1880; for 5 years.
Claim.—1st. The combination of the springs L L—and the stud D, with the bar A and the knife bar C. 2nd. The combination of the springs L L—with the stud D.

No. 11,346. Improvements on Middlings Purifiers. (*Perfectionnements aux épurateurs des gruaux.*)

James H. Redfield, Salem, Ind., U. S., 9th June, 1880; for 10 years.
Claim.—1st. The tube Q for conducting middlings into the purifying chamber, in combination with a suction fan E applied to elevate the middlings through the tube Q, and also carry them over a sieve and thereby bring them in position for separation by an auxiliary blast of air which is caused by the said fan; 2nd. A middlings purifier provided with a suction fan E, a middlings conducting tube Q and a passage C, for supplying air beneath and up through the sieve, whereby the middlings are elevated to the purifier, and are separated, while moving above the surface of the sieve, by air admitted up through the sieve, one fan causing the suction for both elevating and purifying the middlings; 3rd. The combination of the sieve H, the distributing board I, the suction fan E, the tube Q and passages B C; 4th. The sieve frame F provided with a bottom formed of slats f₁ which are perforated as at b, and provided with transverse partitions f₂ which have passages through them as at b₁, and provided with a double channelled trough G having a cut off slide plate c₃, in combination with a sieve H and discharge spouts D D₁ D₂; 5th. The combination of the endwise removable sieves H and the sieve frame F attached to the casing A by a flexible diaphragm; 6th. The combination of the suction fan E, sieve H, distributing board I, conducting tube Q, air passages B C and valved spouts D D₁ D₂; 7th. The combination of the sieve frame F, hanger straps j having knife edge bearings J, and the inclined ratchet toothed brackets K; 8th. The spring M, in combination with the plate K, slotted plates n, set screws n₁, eccentric N and bumper K₁ of the sieve frame.

No. 11,347. Improvements on Hat Felting Apparatus. (*Perfectionnements aux appareils à feutrer les chapeaux.*)

John F. Waring, Boston, Mass., U. S., 9th June, 1880; for 5 years.
Claim.—1st. The combination of two parallel rollers arranged to rotate and form between them an open trough or trough-like or hopper-like cavity, which has an ascending surface on one side and a descending surface on the opposite side, and which is adapted to receive within it, and contain a roll of hat bodies, or other articles, and subject the same to a rolling motion, by the friction of said surfaces upon said roll lying loosely between them; 2nd. The combination of three parallel rollers arranged side by side and means of giving rotary motion thereto, whereby the said rollers form two troughs or trough-like or hopper-like cavities, each having an ascending and a descending side; 3rd. The combination of two parallel rollers arranged side by side to form between them a trough or trough-like or hopper-like cavity and driving mechanism, whereby they are driven at unequal velocities; 4th. The stationary guards D D, in combination with parallel rollers, arranged to form one or more troughs or trough-like or hopper-like cavities between them; 5th. The combination of a longer outer and a shorter inner cloth, in which the hats or other articles are rolled; 6th. The combination with two parallel rollers arranged to form between them a trough or trough-like or hopper-like cavity of two hardening or felting cloths of unequal length.

No. 11,348. Improvements on Metallic Planes. (*Perfectionnements aux rabots métalliques.*)

William Steers and William Long, Sherbrooke, Que., 9th June, 1880; for 5 years.
Claim.—1st. The combination of the nut D, screw C, and thumb screw G with the knife B; 2nd. The combination of the revoluble cylinder H and its projecting pin K with the back iron or holder F; 3rd. The combination of the nut D and its projecting eccentric pin E, with the parallel slots M M in the knife B.

No. 11,349. Improvements on Churns. (*Perfectionnements aux barattes.*)

Alexander Cowley, West Nissouri, Ont., 9th June, 1880; for 5 years.
Claim.—The dash B, in combination with a square parallel churn H exactly fitting the dash.

No. 11,350. Improvements in Door Guards. (*Perfectionnements aux fermetures des portes.*)

Joseph P. Ellacott, Chicago, Ill., U. S., 9th June 1880; for 5 years.
Claim.—1st. The combination of the plate B, with the retaining spring b and the grooved bar D; 2nd. The combination of the bar D of H—form in section, the flanges continuing round and closing the outer end with the catch C having arms with bosses or returns, to engage the flanged bar D; 3rd. The combination of the plate B, the retaining spring b and the flanged bar D, when constructed with the catch C and bosses d d.

No. 11,351. Improvements on Floating Docks. (*Perfectionnements aux calles sèches.*)

Josiah L. Clark and John Standfield, Westminster, Eng., 9th June, 1880; (Extension of Patent No. 4,840.)

No. 11,352. Improvements in Car-Couplers.

(*Perfectionnements aux attelages des chars.*)
 Auguste M. Béchar, Richard D. Morkill, jr., and James R. Woodward, Sherbrooke, Que., 11th June, 1880; for 15 years.

Claim.—1st. In a draw-bar a, the combination in one and the same pendant piece B, of a link guide and pin holder; 2nd. In a draw-bar a, the inclined surface E F, in combination with the link K and link guide B.

No. 11,353. Improvements in Suspender Clasps. (*Perfectionnements aux agrafes des bretelles.*)

Charles E. Johnson and Alfred H. Graffley, Indianapolis, Ind., U. S., 11th June, 1880; for 5 years.

Claim.—1st. A garment clasp composed of two jaws and pivoted together, one of said jaws having a transverse slot therein which is adapted to receive the free end of the other jaw, and thus lock said jaws in position while they clasp or hold the fabric; 2nd. The combination of the A, having pivot bearing a a and transverse slot a₁, and the jaw B having pivots b b.

No. 11,354. Improvements in Closets, &c. (*Perfectionnements aux latrines, &c.*)

William White, London, Eng., 11th June, 1880; for 5 years.
Claim.—1st. The water regulating and waste preventing and in the adaptation of same to the service of lavatories, closets and such like purposes, in which the following points are important points or features, the flap, tipping tray and tipping vessel. Also the construction and arrangement for inlet pipe by means of a notch or indent provided in the basin, and the form and arrangement of the basin generally.

No. 11,355. Improvements in Potato-Diggers. (*Perfectionnements aux arrache-patates.*)

Robert W. Gates, Bloomingdale, Andrew Dunning and Samuel B. Coupland, Chicago, Ill., U. S., 11th June, 1880; for 5 years.

Claim.—1st. The combination of the plough C, having rods D and wings E, with the shoe B, and the adjustable foot F, pivoted at f and having the threaded portion f₁ and nut f₂.

No. 11,356. Improvements on Cylindrical Valves. (*Perfectionnements aux valves cylindriques.*)

Francis Winters, jr., New York, U. S., 11th June, 1880; for 5 years.
Claim.—1st. A rotary and longitudinally adjustable valve having duplex ports and passages, in combination with a chest having an inlet for the admission of steam to the exterior of the valve, and having ports m m₁ through which steam may be admitted to the cylinder and exhausted therefrom, through the valve; 2nd. The combination of a cylindrical valve and its casing or chest, with a piston bearing against the side of the valve, and arranged to be exposed to the pressure of steam.

No. 11,357. Improvements on Faucets or Cocks. (*Perfectionnements aux canules ou robinets.*)

Charles A. Blessing, Philadelphia, Pa., U. S., 11th June, 1880; for 5 years.
Claim.—1st. The combination with the casing of a cock or faucet, of an adjustable screw threaded nozzle, fitting and adapted to ride upon the lower end of the screw threaded casing, the nozzle being connected with the valve stem, carrying a valve for operating the same; 2nd. The combination with the valve casing provided with ports for cold and hot water, of the valves mounted on a single valve stem, and the same connected with a vertically adjustable screw-nozzle, secured to the lower end of the screw threaded valve casing, whereby the valves may be gradually and successively opened and closed; 3rd. The combination of a valve casing, provided with two passages, communicating respectively with two valve chambers, and independent disc and tubular valves and valve stems connected with mechanism, whereby said valves may be operated independently of, or in conjunction with, each other to open the lower ports, for the discharge of cold water, to open all of the ports for the discharge of mixed hot and cold water, or to close the lower induction port and open the remaining ports, to discharge hot water alone; 4th. The combination with the two independent valves seated in separate valve chambers, of the screw-nozzles, connected with the lower valve stem, and adapted to ride up and down the lower screw threaded end of the casing, for the purpose of operating the valves.

No. 11,358. Improvements on Harrows. (*Perfectionnements aux herbes.*)

Gilbert McKinlay and John McKinlay, jr. (Assignee of Isaiah H. Reiner), Line Lexington, Pa., U. S., 11th June, 1880; for 5 years.
Claim.—1st. The side bars A, the median beams B, hinged together, the guards C and the links D; 2nd. The combination with the inner bars of the harrow frame A B, of the wheels E, whereby the harrow can be conveniently moved from place to place.

No. 11,359. Liniment for reducing Swellings, Sprains and Bruises, and for the Healing of Wounds and Sores. (*Liniment pour réduire les enflures, entorses et contusions, et guérir les blessures et les plaies.*)

Robert Sample, Truro, and Malcolm McFarlane, Sheet Harbour, N. S., 11th June, 1880; for 5 years.
Claim.—1st. A compound of Alum, Blue Stone, Saltpetre, Aloes, Myrrh, Carbolic Acid, Spirit of Turpentine, Sugar of Lead and A'ooloh, in the proportions set forth.

No. 11,360. Improvements on Thrashing Machines. (*Perfectionnements dans les machines à battre.*)

Joseph Paradia and Norbert A. Birs, Longueuil, Que., 11th June, 1880; for 5 years.

Claim.—1st. The combination of the cylinder A, carrying bars or beaters and concave segment D, pivoted at one end and having the other carried on a spring, so as to give a yielding resistance; 2nd. The combination with a thrashing machine or separator, of an elevator placed on one side, said elevator being composed of an open belt or chain, so as to allow the grain to pass through it, and carrying scoops that raise the same to the outlet along the lower side of the travelling chain or belt.

No. 11,361. Improvements on Dust Receivers. (*Perfectionnements aux porte-ordures.*)

Nathaniel Pyles and Jonathan H. Lasley, Westport, Mo., U. S., 11th June 1880; for 5 years.

Claim.—1st. A dirt and dust receptacle mounted upon rollers with closed sides, and back and open front that may be pushed along before the sweeper by means of the broom to receive the dirt as it is swept up from the carpet, at each stroke; 2nd. The combination of a removable canopy with an open front that will catch the dust as it rises from the broom and deflect it into the receptacle; 3rd. The combination of the pan or box to receive the dirt, a hood to deflect the dust and a water sprinkler to lay the dust; 4th. The combination of a pan provided with a depressed bottom, a floor board hinged to the front edge of the pan and an opening near one corner of the pan, to empty the contents thereof.

No. 11,362. Improvements in Pump Brakes. (*Perfectionnements aux bras des pompes.*)

William A. Cloud, Otsego, Mich., Joel W. Parsons and Theodore C. Harris, Fremont, Ohio, U. S., 11th June, 1880; for 5 years.

Claim.—1st. The combination with the plunger, plunger rod, crank arm and the shaft upon the standard, the pendulum P, with a weighted rod or arm Q pivoted thereto.

No. 11,363. Improvements on Fly Wheels. (*Perfectionnements aux volants.*)

Herman Baldwin, New Haven, Ct., U. S., 11th June, 1880; for 5 years.

Claim.—1st. The combination with the shaft A, having the ratchet D, of the wheel B, having the box or socket F supplied with a spring-pawl E, and pawl holding screw or stud H playing in a slot h, in the box or socket F.

No. 11,364. Improvements on Combined Carriage Springs and Axles. (*Perfectionnements aux ressorts et aux essieux des voitures combinés.*)

Claim.—1st. The combination of a vehicle body and axle and connections between the body and axle arranged to form an elastic seat to the axle, and brace it yieldingly in the direction of the length of the vehicle; 2nd. In combination with a vehicle body a spring seated axle braced immediately from the body in such manner as to permit direct vertical play; 3rd. In combination with the axle of a vehicle, a semi-elliptical spring curved in reference to both vertical and horizontal plane, to adapt it for resisting strains; 4th. In combination with the axle B, the springs C, arranged on each side of the axle and curved with reference to both vertical and horizontal plane; 5th. The combination with the axle and body of a vehicle, of springs curved to resist strains longitudinal with said body and attached to said axle and body in such a manner as to afford support against lateral strains; 6th. The combination of axle B, springs C, having curvature to resist longitudinal strains, and the curved and flexible spring bars D; 7th. The combination of side braces E with curved springs, which form a yielding connection between the body and axle of a vehicle; 8th. The combination of the axle B, of braces E and sliding socket F.

No. 11,365. Improvements on Brooms. (*Perfectionnements aux balais.*)

Samuel P. Fraley, Columbus, Ohio, U. S., 11th June, 1880; for 5 years.

Claim.—1st. A broom brush formed of layers of straw secured to opposite sides of a transverse bar by means of the wires that the straw above and below the bar; 2nd. A broom formed of the combination of the handle E, clamped to a holder D that embraces the stub end of brush A, and is provided with recesses that interlock with the projecting ends of a b r B that passes transversely through the broom brush; 3rd. A broom brush formed of layers of straw bound together by the wires arranged upon opposite sides of the straw bent around the ends thereof in opposite directions, the wires being crimped to bind the straw in a wave line.

No. 11,366. Improvements in Washing Machines. (*Perfectionnements aux machines à laver.*)

Charles A. White, Kingsville, Ont., 11th June, 1880; for 5 years.

Claim.—1st. The confining of the centre of rotation of the shoe to a fixed point, and which, while it allows the free rise and fall of the shoe, requires it to be in a perpendicular direction only; 2nd. The combination of the shoe B, with the triangular prisms d; 3rd. The arrangement and combination of the body A, shoe B, rock shaft C, ribs a, shoe ends c, prisms d guide rods e and handle bar f.

No. 11,367. Improvements in Railway Switches. (*Perfectionnements aux aiguilles des chemins de fer.*)

John B. Carey, Boston, Mass., U. S., 11th June, 1880; for 5 years.

Claim.—1st. A railway track having one rail of its main line intact, with the opposite rail intermitted and receiving a laterally sliding frog, containing two rails to establish communication between the two portions of such

main rail and the adjacent rail of the turnout, a suitable bearing plate being combined with the continuous rail, and the relative positions of the movable frog, the turnout and rails and the bearing plate being such, that, as the wheels of a car are diverted by the frog from the main rail to the turnout, the opposite wheels travel upon their flanges, obliquely across the bearing plate, to pass the point of the adjacent turnout rail; 2nd. In combination with one intact rail of a railway track, a laterally moving frog, having in addition to its main and siding rails, an intermediate reserve or extra rail; 3rd. The combination and arrangement of the intact rail A¹, turnout rail B and plate H, the treads of the rails A B being in the same plane, and at a height above the face of the plate equal to the distance between the peripheries of the treads and flanges and of the cars or locomotive wheels; 4th. The rails A B and plate H, in combination with the rails A¹ B¹ and the movable frog, the plate H and rail B being so arranged that as the wheels upon one side of the car partially traverse the tongue G and approach the adjacent turnout rail, the opposite wheels traverse the plate H obliquely, and their flanges pass to the inside of the rail B; 5th. The plate H, in combination with the main rail A and turnout rail B, and having the guard rail or fin c, the enclosure between the said fin and the rail A being tapering or flaring at its inner end, and so arranged with respect to the turnout rail B, main rail A and frog tongue G, that in the event of the wheels upon one side of the car riding upon the groove p, and upon the said tongue G, or upon the groove r, and upon the short rail or block q, the wheels upon the opposite side of the car will be guided by the guard rail c, to, and so as to ride upon the main rail a, and i, so doing force the opposite wheels from the rail or block q to the main rail A; 6th. The sloping groove p in the tongue G by which the flanges of their wheels upon one side of the car, ascend from their ordinary plane to the top of said tongue G; 7th. The sloping groove r in the short rail or block q, by which the wheels, upon the adjacent side of a car, ascend from the ordinary plane to the top of said block; 8th. The combination of the block q with its groove r, the rail A¹ and the frog tongue G, whereby the flange of a car wheel may ascend from its ordinary plane to the top of the rail A¹ and drop from the latter to bring the treads of the wheel upon the rail; 9th. In combination with the intact rail A, the frog tongue G, rail A¹ and rail or block q with its groove r, the plate H with its guard rail c, such guard rail being obliquely arranged with respect to the rails A A¹ and converging outward towards the latter, in order to direct the wheels upon the opposite side of the car, which may be travelling on their flanges, upon the top of the plate q, or rail A¹ inward, toward the centre of the track, and precipitate the treads of the wheels upon the said track; 10th. Railway tracks and intact rail upon one side the track, in combination with a movable frog, operating as a switch with the opposite rail; 11th. The hand lever or shipper, in combination with the rock-shaft j, connecting rods I I and the movable frog or the equivalent of such devices, whereby the vibrations of the hand lever impart the necessary movements to the frog plate; 12th. The hand lever as weighted at its upper end, and to cause it to drop to a horizontal position, and in so doing force the frog to its proper position, in one of its extremes; 13th. The arc m, in combination with the hand lever and its latch, and having a notch, to engage the nose of the latch and lock the lever in an upright position; 14th. The two sided or furcated arc m, embracing opposite sides of the hand lever, and serving to guide the latter in its vibrations, as well as to provide a stop to hold such lever in a vertical position.

No. 11,368. Improvements in Valve Rod Supports. (*Perfectionnements aux supports des tiges de soupapes.*)

Josiah A. Osgood, Grantville, Mass., and Edwin P. Monroe, New York, U. S., 11th June, 1880; for 5 years.

Claim.—1st. A packing and supporting device for valve stems and piston rods having the packing at such a distance from the nearest support or bearing traversed by the rod or stem that no portion of the latter, exposed to wear or distortion from passing the support, will enter or pass through the packing; 2nd. A case, box, tube or other receptacle surrounding a piston rod or valve stem and containing a packing and a support, or bearing for the rod or stem, at such a distance from the packing that no portion of the rod or stem exposed to wear or distortion from passing the support or bearing, will enter or pass through the packing; 3rd. In combination with a cylinder or steam chest, having in its end wall a support or bearing for a piston rod or valve stem, a case, box, tube or other receptacle enclosing a packing for the rod or stem at such a distance from the support or bearing, that no portion of the rod or stem exposed to wear or distortion, in consequence of passing the support or bearing, shall enter or pass through the packing; 4th. In combination with a cylinder or steam chest, a case, box, tube or other receptacle containing a support for the rod or stem and having an extension of greater interior diameter than the support, abutting at the end farthest from the support, against the packing or packing receptacle and holding the same at a distance from the support such, that no portion of the rod liable to be worn or distorted, in consequence of passing the support, shall enter or pass through the packing; 5th. A support for a piston rod or valve stem, consisting of a sleeve, tube or collar, preferably of iron, adapted to be applied to the head wall of a cylinder or steam chest and removable therefrom; 6th. The combination with a support or bearing for a piston rod or valve stem and a packing device of an intermediary tube, collar or shoulder of a length sufficient to keep the packing device at such a distance from the support or bearing that no portion of the rod liable to wear or distortion, in consequence of passing over the support or bearing, will enter or pass through the packing.

No. 11,369. Improvements in Card Holders. (*Perfectionnements aux étuis à cartes.*)

Frederick G. Hunter, Moncton, N. B., 11th June, 1880; for 5 years.

Claim.—A card holder having two rotary levers, with teeth supported at either end by brackets, the top one of which having one or more springs passing through a small projection and having an outer bar or staple to hold a larger size card.

No. 11,370. Improvements in Bridge Trusses. (*Perfectionnements aux armatures des ponts.*)

Samuel R. Holt, Worthington, Ohio, U. S., 11th June, 1880; for 5 years.

Claim.—The combination, with an upper sectional chord and an adjusting wedge interposed between the abutting ends of its sections, of straining

members which incline from their points of connection with the sectional chord downward and toward the centre of the truss to their respective points of connection with the lower chord; 2nd. The combination, with an upper sectional chord and an adjusting wedge interposed between the abutting ends of its sections, of braces which incline from their points of connection with the sectional chord downward and towards the ends of the truss to their respective points of connection with the lower chord; 3rd. The combination, with an upper sectional chord and an adjusting wedge interposed between the abutting ends of its sections, of braces which incline from their points of connection with the sectional chord downward and toward the ends of the truss to their respective points of connection with the lower chord, together with the straining members which incline from their points of connection with the sectional chord downwards and toward the centre of the truss to their respective points of connection with the lower chord; 4th. The combination, with a truss consisting of a lower straining member and upper compression member, consisting of two sections, coming together at the middle of the truss, braces D and tie or straining members E, of wedges F located between the inner ends of the compression members, whereby the structure may be stiffened up.

No. 11,371. Process of, and Apparatus for Felting Hat Bodies. (*Procédé et appareil de feutrage des chapeaux.*)

John T. Waring, Boston, Mass., U.S., 11th June, 1880; for 5 years.

Claim—1st. The process of felting hat bodies and other articles, in subjecting such articles to the action of the interior surface of a hollow revolving, turning or oscillating receptacle, whereby they are raised and afterwards caused to roll or turn, or to tumble over and fall back by gravitation; 2nd. The process of felting hat bodies and other articles, in subjecting them, during the felting process, to the action of steam in a closed vessel or receptacle; 3rd. A closed hollow revolving or oscillating cylinder or receptacle having its interior surface corrugated or ribbed; 4th. A closed hollow revolving or oscillating cylinder or receptacle provided with means for introducing steam thereinto.

No. 11,372. Separator for Peas. (*Séparateur pour les pois.*)

Napoléon Hébert, sr., Ste. Rosalie, and Alexandre Lapointe, jr., St. Hyacinthe, Que., 11th June, 1880; for 5 years.

Résumé—1o. La combinaison d'un entonnoir K, de deux roues d'engrenage U V, d'une petite manivelle avec la bielle I, d'une trémine inclinée D, d'un crible à gaudriole G et d'un crible à pois G¹; 2o. La combinaison avec l'entonnoir K, les deux roues d'engrenage U V, la petite manivelle avec la bielle I, la trémine inclinée D, le crible à gaudriole G et le crible à pois G¹, de quatre auges A A¹ A² et de trois tiroirs S S S.

No. 11,373. Improvements in Sash-Fasteners.

(*Perfectionnements aux arrête-croisés.*)

William G. Rawbone and Joseph L. Rawbone, Toronto, Ont., 14th June, 1880; for 5 years.

Claim—1st. Sections C C¹ and the spring bolt D, said sections being fastened to the upper and lower sashes of a window; 2nd. The combination with the recessed sections C, provided with the bevelled face of the spring bolt D, provided with a rounded head; 3rd. The combination with the casing, bolt, spring and knob, of the screw E; 4th. Sections C C² bevelled on their adjoining faces in opposite directions.

No. 11,374. Improvement in Newspaper Holders. (*Perfectionnements aux serre-papiers-nouvelles.*)

William C. Fitch and Charles Day, Sacramento, Cal., U. S., 14th June, 1880; for 5 years.

Claim—1st. The paper holder composed of the sticks b b b¹ b², in combination with the flexible connections c et.

List of Patents issued up to 16th August, 1880, but not yet Officially published in the Patent Office Record.

No. 11,511. W. J. Gurd, Sarnia, O., "Interest and Time Calculator," Patent dated 19th July, 1880.

No. 11,512. G. B. Thomas, Point Pleasant, Virg. U. S. A., "Iron Roofing," 19th July, 1880.

No. 11,513. C. Felhoen, New York U. S. A., "Blasting Powder," 19th July, 1880.

No. 11,514. S. Day, Otterville, O., (Assignee of C. Graham.) Sturges, Mich., U. S. A. "Waggon Rack," 19th July 1880.

No. 11,515. A. Bartlett, Chatham, O., "Car Coupler," 19th July, 1880.

No. 11,516. D. Knowlton, Brantford, O., "Spring Bed Bottom," 19th July, 1880.

No. 11,517. F. S. Gilbert, Oshawa, O., "Wrench," 19th July, 1880.

No. 11,518. F. L. Pope, Elizabeth City, N. J., U. S. A., "Electro Signalling Apparatus." (Extension of Patent No. 5011), 19th July, 1880.

No. 11,519 A. J. Lookie, H. A. Hurd, and T. H. Titus, Rochester, N. Y., U. S. A., "Horse Hoof Pad," 19th July, 1880.

No. 11,520. T. A. Edison, Menlo Park, N. J., U. S. A., "Electric Lamp," 18th July, 1880.

No. 11,521. E. Hely, Dublin, Ireland, "Printing Machine," (Extension of Patent No. 5,020, 19th July, 1880.

No. 11,522 E. Card, Pawtucket, R. I., U. S. A., "Grate," 19th July, 1880.

No. 11,523. J. A. Rouse, Et. Berkshire, Ver., U. S. A., "Horse Power Link," 19th July, 1880.

No. 11,524. G. B. Cornell, Chicago, Ill., U. S. A., "Bung Bush," 19th July, 1880.

No. 11,525. A. Cary, New York, U. S. A., "Wire Fence Barbing Machine" 19th July, 1880.

No. 11,526. H. H. Brown, Ladaga, Wis., U. S. A., "Sad Iron Heater," 19th July, 1880.

No. 11,527. T. A. Edison, Menlo Park, N. J., U. S. A., "Electric System for Light Heat or Power," 19th July, 1880.

No. 11,528. G. Ramsdell, Oswego, N. Y., U. S. A., "Wood and Oil Apparatus," 19th July, 1880.

No. 11,529. W. S. Hanson, Mt. Pleasant, Iowa, U. S. A., "Grain Car," 19th July, 1880.

No. 11,530. M. Bray, Newton, (Assignee of G. Van Horne,) Boston, Mass., U. S. A., "Lacing Hook," 19th July, 1880.

No. 11,531. C. Barnes, Dayton, Ken., U. S. A., "Fire Extinguisher," 19th July, 1880.

No. 11,532. J. A. Osgood, Grantville, Mass., and E. P. Monroe, New York, U. S. A., "Valve Rod Packing Device," 24th July, 1880.

No. 11,533. M. J. Allen, New York, and W. E. Bradley, Frankfort, Ken., U. S. A., "Process of Making Whisky," 24th July.

No. 11,534. T. H. Walsh, New York, U. S. A., "Asphaltum Pipes," 24th July, 1880.

No. 11,535. M. Bray, Newton, (Assignee of G. Van Horne, Boston, Mass., U. S. A. "Lacing Hook," 19th July, 1880.

No. 11,536. G. F. Swift, Chicago, Ill., (Assignee of A. J. Chase, Boston Mass., U. S. A., "Refrigerator," 19th July, 1880.

No. 11,537. C. Kinney, Windsor, & A. Neville, Hamilton, "Bevelling Gauge," 19th July, 1880.

No. 11,538. R. L. Furnet, Hartland, O., U. S. A., "Hand Hoe," 19th July, 1880.

No. 11,539. J. Stevens, Neenah, Wis., U. S. A., "Grinding Mill," 19th July, 1880.

No. 11,540. G. A. Pierce, Stanstead, Q., (Assignee of M. F. Pierce, Boston, Mass., U. S. A., "Dust Pan," 19th July 1880.

No. 11,541. J. G. Garland, Biddford, Me., U. S. A., "Apparatus for Moistening the Atmosphere," 19th July 1880.

No. 11,542 B. S. Miles, Gray's Summit, Wis., U. S. A., "Stamp Extractor," 19th July 1880.

No. 11,543. J. Stevens, Neenah, Wis., U. S. A., "Grinding Mill," 19th July, 1880.

No. 11,544. W. H. Hannaford, Chicago, Ill., U. S. A., "Boot," 19th July, 1880.

No. 11,545. H. S. Wing, Detroit, Mich., U. S. A., "Carpet Sweeper," 19th July, 1880.

No. 11,546. J. Dempsey, Lewiston, Me. & L. Flagg, Central Falls, R. I., U. S. A., "Metallic Cooler for Journals," 19th July 1880.

No. 11,547. M. A. Steers, Kalamazoo, Mich., U. S. A., "Pillow Sham Holder," 19th July, 1880.

No. 11,548. C. D. Van Allen, Guelph, O., "Churn Dash and Washer," (Extension of Patent No. 5,063,) 19th July, 1880.

No. 11,549. T. J. Gordon, D. H. Bumpus, and W. H. Keeler, Rouseville, Penn., U. S. A., "Clay Process for Decolorizing and refining Petroleum," (Extension of Patent No. 5,035,) 19th July, 1880.

No. 11,550. F. Dodge, B. J. Denton, and J. M. Hart, Oswego, N. Y. O. S. A., "Peat Machine," 19th July, 1880.

No. 11,551. P. R. Dederick, Albany, N. Y., U. S. A., (Assignee of C. G. C. Simpson,) Montreal, Q., "Hay Press," (Extension of Patent No. 982,) 24th July, 1880.

No. 11,552. M. G. Hubbard, jr., Morrestown, Penn., U. S. A., "Grain Binder," 28th July, 1880.

- No. 11,553. R. Mylins, Berlin, O., "Fountain," 28th July, 1880.
- No. 11,554. A. L. Wood, Boston, Mass., U. S. A., "Apparatus for Purifying and Aging Liquors," 28th July, 1880.
- No. 11,555. E. O. Bicknell, Boston, Mass., U. S. A., 28th July, 1880.
- No. 11,556. B. Hershey, Erie, Penn., U. S. A., "Clothes Wringer," 28th July, 1880.
- No. 11,557. G. W. Read, Port Dalhousie, O., "Kitchen Safe," 28th July, 1880.
- No. 11,558. J. Stubbs, (Assignee of F. W. Schultz.) Port Pleasant, Iowa, U. S. A., "Road Scraper," (Extension of Patent No. 5,032.) 28th July, 1880.
- No. 11,559. J. Herson, Florence, O., "Fanning and Threshing Machine Attachment," 28th July, 1880.
- No. 11,560. W. C. Perry, Brattleborough, Vt., U. S. A., "Car Coupler," 28th July, 1880.
- No. 11,561. R. Dudley and B. Hershey, Erie, Penn., U. S. A., "Clothes Wringer," 28th July, 1880.
- No. 11,562. H. A. Lothrop, Boston, and F. B. Lothrop, South Acton, Mass., U. S. A., "Glove or Shoe Fastening," 28th July, 1880.
- No. 11,563. F. L. Snyder, Montclair, N. J., U. S. A., "Shank Button," 28th July, 1880.
- No. 11,564. F. Breyer, Vienna, Austria, "Fæcal Utilizer," 28th July, 1880.
- No. 11,565. T. Millette, Three Rivers, Q., "Lock and Sluice Gates," 28th July, 1880.
- No. 11,566. A. Toellner, Milwaukee, Wis., U. S. A., "Pump," 28th July, 1880.
- No. 11,567. H. H. Vansickle, Onondaga, O., "Washing and Cleansing Powder," 28th July, 1880.
- No. 11,568. G. E. Burt, Harvard, Mass., U. S. A., "Fraction Mechanism for Propelling Machinery," 28th July, 1880.
- No. 11,569. J. H. Bartlett and P. D. Macintyre, Ottawa, O., "Mail Bag Fastener," 28th July, 1880.
- No. 11,570. W. Courtenay, New York, U. S. A., "Process of Treating Vegetable Fibrous Substances," 30th July, 1880.
- No. 11,571. A. J. Chase, Boston, Mass., U. S. A., "Refrigerating and Cooling Apparatus," 30th July, 1880.
- No. 11,572. W. E. Cornell, Toronto, O., "Postal Paper," 30th July, 1880.
- No. 11,573. J. B. Weir, Otsego Lake, Mich., U. S. A., "Calk Plate," 30th July, 1880.
- No. 11,574. H. Mounsey, Iberville, Q., "Washing Machine," 30th July, 1880.
- No. 11,575. T. A. Watson, Everett, Mass., U. S. A., "Telephone Switch," 30th July, 1880.
- No. 11,576. R. A. Lockwood, S. H. Bartlett, and C. F. Livermore, New York, U. S. A., "Telephonic Receiver," 30th July, 1880.
- No. 11,577. J. Bradley, Lowell, and W. W. Manning, Cambridge, Mass., U. S. A., "Knitting Machine," 30th July, 1880.
- No. 11,578. J. M. Hunter, Harristown, N. J., U. S. A., "Safety Pocket," 30th July, 1880.
- No. 11,579. J. Turner, Bury, England, "Closet Guard," 30th July, 1880.
- No. 11,580. W. A. Childs, New York, U. S. A., "Telephone Exchange Systems and Devices," 30th July, 1880.
- No. 11,581. H. A. Schandevyl, East Sanguis, Mass., U. S. A., "Brace Corset," (Extension of Patent No. 5,045.) 2nd August, 1880.
- No. 11,582. O. B. Thompson, of White Ash, and W. W. Grier, Hutton, Penn., U. S. A., "Carriage," 2nd August, 1880.
- No. 11,583. W. W. Grisoom, Philadelphia, Penn., U. S. A., "Electric Motor, Generator and Current Regulator," 2nd August, 1880.
- No. 11,584. H. M. Wells, Toronto, O., "Stovepipe Joint Fastener," 2nd August, 1880.
- No. 11,585. J. G. McHenry, (Assignee of A. H. Kerr.) Midway, Texas, U. S. A., "Composition for Whitewash," 2nd August, 1880.
- No. 11,586. H. French, Berlin, Prussia, and J. Ballatschano, and C. Ballatschano, Bucarest, Roumania, "Lanning and Condensing Processes and Compositions," 2nd August, 1880.
- No. 11,587. J. Wickersheimer, Berlin, Prussia, "Compound for Protecting Animals against Insects," 2nd August, 1880.
- No. 11,588. A. D. Cox, Cardinal, Ohio, "Gate Fastener and Support," 2nd August, 1880.
- No. 11,589. A. N. Horner, Baltimore, Md., U. S. A., "Sleeve," 2nd August, 1880.
- No. 11,590. R. M. Lockwood, S. H. Bartlett and C. F. Livermore, New York, U. S. A., "Transmitters for Telephones or Vocal Sound by Telegraphs," 2nd August, 1880.
- No. 11,591. M. Newton, Holyoke, Mass., U. S. A., "Method and Apparatus for Calendaring Paper," 2nd August, 1880.
- No. 11,592. T. Ferry, Wilmington, Del., U. S. A., "Carpet Cleaner," 2nd August, 1880.
- No. 11,593. J. H. McNairn, Toronto, O., (Assignee for A. K. Rider, Walden, N. Y., U. S. A.) "Hot Air Engine," 2nd August, 1880.
- No. 11,594. J. W. Grover, Westminster, England, "Spring Washer," (Extension of Patent No. 5,112.) 3rd August, 1880.
- No. 11,595. W. V. Perry, Kokomo, Ind., U. S. A., "Car Coupler," 3rd August, 1880.
- No. 11,596. C. Cole and F. French, Meriden, Hamp., U. S. A., "Pruning Machine," 4th August, 1880.
- No. 11,597. C. C. Hearie, Montreal, Q., "Spring," 4th August, 1880.
- No. 11,598. H. F. Malcolm, Scotland, "Plough," 4th August, 1880.
- No. 11,599. N. Kaiser, Grellingen, Switzerland, "Wood Pulp Bleaching Process," August 4th, 1880.
- No. 11,600. P. G. L. G. Designoble, Paris, France "Ore Separator," 4th August, 1880.
- No. 11,601. W. McIntyre, Carrollton, Miss., U. S. A., "Condenser," 4th August, 1880.
- No. 11,602. D. Abrey, Greenville, Mich., U. S. A., "Improvements in Running Machinery," 4th August, 1880.
- No. 11,603. L. W. Murch, Kennedy, N.Y., U. S. A., "Churn," 4th Aug., 1880.
- No. 11,604. T. E. Nichols, Morpeth, Ont., "Harrow," 4th Aug., 1880.
- No. 11,605. H. R. Ferris, Cleveland, Ohio, U.S.A., "Lifting Jack," 4th August, 1880.
- No. 11,606. F. Jacob, Newark, N. Y., U. S. A., "Sewing Machine," 4th August, 1880.
- No. 11,607. W. Robinson, Boston, Mass., U. S. A., "Electric Railway Signals," 4th August, 1880.
- No. 11,608. M. K. Bortree, Jackson, Mich., U. S. A., "Corset," (Extension of No. 5,363), 6th August, 1880.
- No. 11,609. M. K. Bortree, Jackson, Mich., U. S. A., "Corset," (Extension of Patent No. 5,363), 7th August, 1880.
- No. 11,610. The Standard Empire Vacuum Brake Company, (Assignee of J. Steger, New York, U. S. A., "Brake," (Extension of Patent No. 5,080), 7th August, 1880.
- No. 11,611. H. Viger, Longueuil, Que., "Lock," 7th August, 1880.
- No. 11,612. C. D. Rogers, Providence, R. I., U. S. A., "Wire Drawing Machine," 7th August, 1880.
- No. 11,613. G. R. Sungley, Fredericktown, Ohio, U. S. A., "Harness Tug," 7th August, 1880.
- No. 11,614. E. S. Piper, Toronto, Ont., "Lamp," Ont., 7th August, 1880.
- No. 11,615. L. Lavoie, St. Martin, Que., "Potato Picker," 7th August, 1880.
- No. 11,616. N. Prince, St. Boniface, Man., "Wind Machine," 7th August, 1880.
- No. 11,617. L. Lawrence, (Assignee of N. C. N. Lawrence and E. G. Matza, Detroit, Mich., U. S. A., "Gilding Process," 7th August 1880.)
- No. 11,618. E. N. Dickerson, jr., New York, U. S. A., "Process of Depositing Gold from its Aqueous Solutions," 7th August, 1880.
- No. 11,619. L. H. Broome, (Assignee of J. Davis and F. B. Chidester, Jersey City, N. Y., U. S. A., "Lathe Turning Machine," 7th August, 1880.
- No. 11,620. J. F. Curtice, Fort Wayne, Ind., U. S. A., "Car Brake Shoe," 7th August, 1880.
- No. 11,621. W. Thilmany, Cleveland, Ohio, U. S. A., "Process for Preserving Timber," 11th August, 1880.
- No. 11,622. J. Anderson, New York, U. S. A., "Spring Coiling Machine," 11th August, 1880.
- No. 11,623. H. R. Penrice, Hatfield, England, "Rack Tunnelling Machine," 11th August, 1880.
- No. 11,624. G. W. Copeland, Malden, (Assignee of E. Woodward and M. Brock, Boston, Mass., U. S. A., "Pegging Machine," 11th August, 1880.
- No. 11,625. H. H. C. Sintzenich, Toronto, Ont., "Method of Making Iron or Steel Railway Rails," 11th August, 1880.
- No. 11,626. H. Stephens, (Assignee of H. Kurth, Hamilton, Ont., "Cookie Separator," 11th August, 1880.
- No. 11,627. A. C. Rand, (Assignee of G. E. Nutting and J. C. Githens, New York, U. S. A., "Steam Drill," (Extension of Patent No. 5,961), 11th August, 1880.
- No. 11,628. W. B. Noyes, Boston, Mass., U. S. A., "Curtain Roller," 11th August, 1880.
- No. 11,629. J. Stevens, Neenah, Wis., U. S. A., "Grinding Mill," 11th August, 1880.
- No. 11,630. Le R. Hooker, Quebec, Que., "Printing Ink," 11th August, 1880.
- No. 11,631. G. F. Brush, Cleveland, Ohio, U. S. A., "Apparatus for Generating and Applying Electricity," 11 August, 1880.
- No. 11,632. C. Carothers, Toronto, (Assignee of T. Kater, Hamilton, Ont., "Piano," (Extension of Patent No. 5,053), 13th August, 1880.
- No. 11,633. H. M. Wells, Toronto, Ont., "Blind Fastener," (Extension of Patent No. 5,952), 13th August, 1880.
- No. 11,634. W. Abercrombie, Hamilton, Ont., "Sash Clamp," (Extension of Patent No. 5,050), 13th August, 1880.
- No. 11,635. J. Sissons, Montreal, Que., "Refrigerator," 14th August, 1880.
- No. 11,636. C. T. Schoen and C. Scott, Philadelphia, Pa., U. S. A., "Caster," 14th August, 1880.
- No. 11,637. J. Watson, Ayr, Ont., "Keeper," Ont., 14th August, 1880.
- No. 11,638. E. R. Deverall, Cincinnati, Ohio, U. S. A., "Oil Cans," 14th August, 1880.
- No. 11,639. J. Alexander, Toronto, Ont., "Refrigerator," 14th August, 1880.
- No. 11,640. E. Burrill, Elgin, Ill., U. S. A., "Dental Chair," 14th Aug., 1880.
- No. 11,641. H. Martin, Ottawa, Ont., (Assignee of E. Buckland, New Glasgow) N.S., "Anchor," 14th August, 1880.
- No. 11,642. The Mears Chlorination Company (Assignee of J. H. Mears, Philadelphia, Penn., U. S. A., "Process of Chlorination," (Extension of Patent No. 10,834), 14th August, 1880.
- No. 11,643. The Mears Chlorination Company, (Assignee of J. H. Mears, Philadelphia, Penn., U. S. A., "Process of Chlorination," (extension of Patent No. 10,834), 16th August, 1880.

INDEX OF INVENTIONS.

Axle, carriage, S. W. Ludlow.....	11,364	Hat felting apparatus, J. T. Waring	11,347
“ vehicle, E. A. Wible.....	11,331	Heel machine, J. W. Brooks, 11,334, 11,335, 11,336, 11,337	11,338
Bed bottom and mattress, J. Mills.....	11,318	11,338,	11,339
“ spring, H. B. Clark.....	11,333	Heel stiffeners, H. G. Farr, et al.,.....	11,329
Belts, canvas, M. Gandy.....	11,324	Hinge, blind, T. O. Memery.....	11,310
Binder, grain, C. W. Levalley.....	11,313	Leather finishing machines, F. B. Batchelder.....	11,325
Boiler tube securing, W. Tully.....	11,322	Liniment for swellings, &c., R. Sample, et al.,.....	11,359
Boots and shoes, H. G. Farr, et al.,.....	11,329	Loom, C. Cross.....	11,323
“ J. C. Daggett.....	11,343	Mattress and bed bottom, J. Mills.....	11,318
Box, car fare, L. Maltus.....	11,317	Medical compound, W. Dalrymple.....	11,309
Brake, car, G. Smith.....	11,315	Middlings purifiers, J. H. Redfield.....	11,346
“ pump, W. H. Cloud, et al.,.....	11,362	Mowing machines, J. E. Thomas.....	11,345
Bridge, trusses, S. R. Holt.....	11,370	Newspaper holder, W. C. Fitch, et al.,.....	11,374
Broom, S. P. Frailey.....	11,365	Oven, baker's, G. Brake.....	11,303
Buttons, shirt, C. Robinson, et al.,.....	11,326	Peas, separator for, N. Hébert, et al.,.....	11,372
Card-holder, F. G. Hunter.....	11,369	Planes, metallic, W. Steers, et al.,.....	11,348
Churn, A. Cowley.....	11,349	Potash separating, J. Woodrum.....	11,308
“ J. S. Sprague.....	11,320	Potato diggers, R. W. Gates, et al.,.....	11,355
Clasps, suspender, C. E. Johnson, et al.,.....	11,353	Pump, S. Buschleu.....	11,305
Closets, W. White.....	11,354	“ brake, W. H. Cloud, et al.,.....	11,362
Cock or faucet, C. A. Blessing.....	11,357	Purifying and Grinding grain, G. Milkbank.....	11,312
Corset, E. W. Bigelow.....	11,307	Rail, railway, S. W. Baldwin.....	11,340
Coupler, car, A. M. Béchar, et al.,.....	11,352	Rivets, tubular, G. W. Tucker.....	11,306
Coupling, car, W. P. Cutter.....	11,332	Sash fasteners, W. G. and J. L. Rawbone.....	11,373
Dock, floating, J. L. Clark, et al.,.....	11,351	Saw, cross cut, A. Wilkins.....	11,304
Door guards, J. P. Ellacott.....	11,350	Saw mill, D. C. Prescott.....	11,341
Dust receivers, N. Pyles, et al.,.....	11,361	Separator for peas, N. Hébert, et al.,.....	11,372
Engine, steam, J. Haggert, et al.,.....	11,328	Separator, grain, J. Bennett.....	11,341
Faucet or cock, C. A. Blessing.....	11,357	Ships, bottom protecting, R. H. Seaton, et al.,.....	11,321
Felting apparatus, hat, J. T. Waring.....	11,347	Shoes, C. M. Lee.....	11,327
“ hats, J. T. Waring.....	11,371	Spring, carriage, S. W. Ludlow.....	11,364
Grain-binder, C. W. Levalley.....	11,313	Spring, wire, N. Jenkins.....	11,311
“ grinding and purifying, G. Milbank.....	11,312	Stove, heating, W. and J. W. Buck.....	11,316
“ separators, J. Bennett.....	11,344	Switch, railway, J. B. Carey.....	11,367
Grinding and purifying grain, G. Milbank.....	11,312	Telegraph and telephone, T. A. Watson, et al.,.....	11,330
Harrow, A. Lajeunesse.....	11,319	Thrashing machine, J. Paradis, et al.,.....	11,360
“ G. and J. McKinlay.....	11,358	Truss, bridge, S. R. Holt.....	11,370
Hat felting, J. T. Waring.....	11,371	Valise, W. C. Crofford, et al.,.....	11,342
		Valve, cylindrical, F. Winters, jr.,.....	11,356
		“ rod support, J. A. Osgood, et al.,.....	11,368
		Washing machine, C. N. White.....	11,366
		Wheel, fly, H. Baldwin.....	11,363

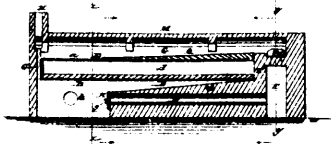
THE CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

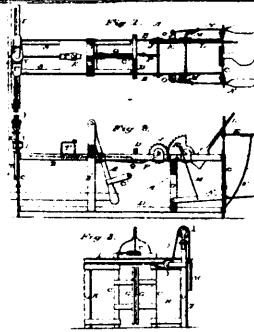
Vol. VIII.

JULY, 1880.

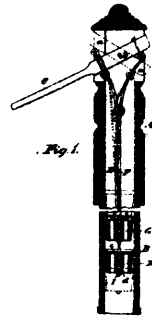
No. 7.



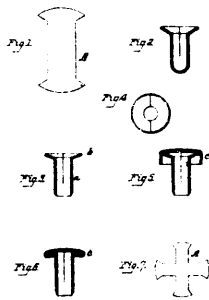
11303 George Brake's Improvements on Baker's Ovens.



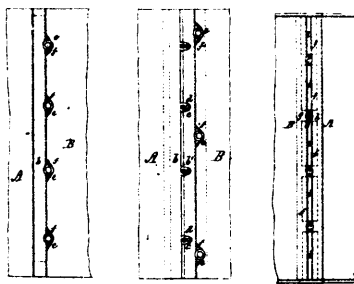
11304 Wilkins' Improvements on Cross-cut Saws.



11305 Bushlen's Improvements on Pumps.



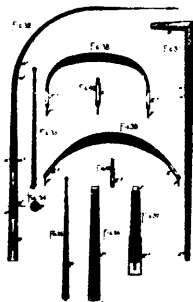
11306 Tucker's Improvements on Tubular Rivets.



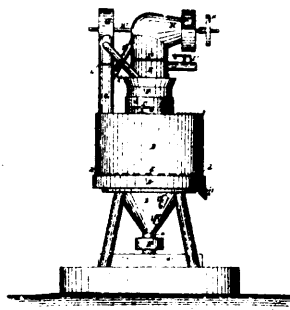
11307 Bigelow's Improvements in Corsets.



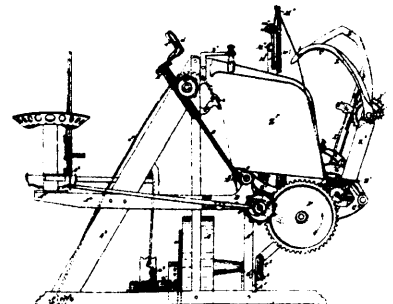
11310 Memery's Improvements on Blind Hinges.



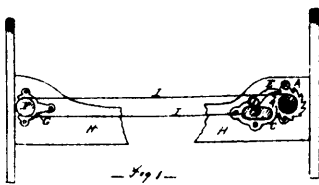
11311 Jenkins' Improvements on Wire Springs.



11312 Milbank's Method and Apparatus for Grinding and Purifying Grain.



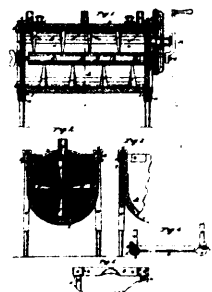
11813 Levalley's Improvements on Grain Binders.



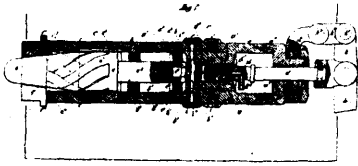
11318 Mills' Combined Mattress and Bed Bottom.



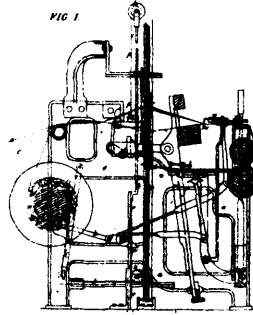
11319 LaJunesse's Improvements on Harrows.



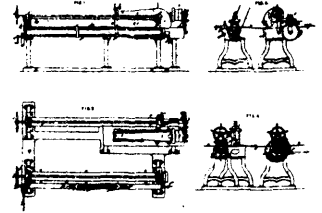
11820 Sprague's Improvements on Churns.



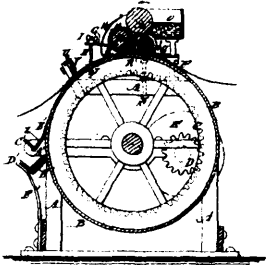
11322 Tully's Apparatus for Securing Boiler Tubes.



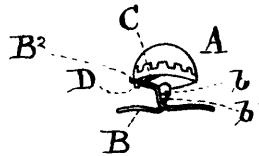
11323 Cross's Improvements on Looms.



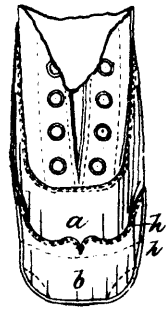
11324 Gaudy's Improvements on Canvas Belts and Machinery for their Manufacture.



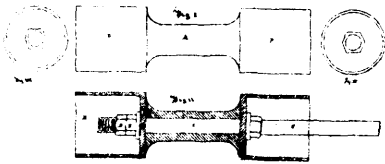
11325 Batchelder's Improvements on Leather Finishing Machines.



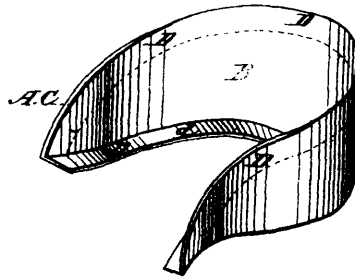
11326 Robinson & Downey's Improvements on Shirt Buttons.



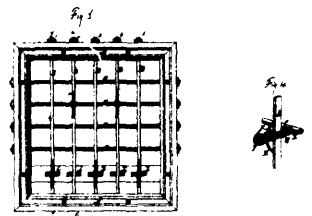
11327 Lee's Improvements on Shoes



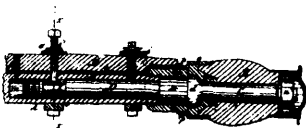
11328 Sweet's Improvements on Steam Engines.



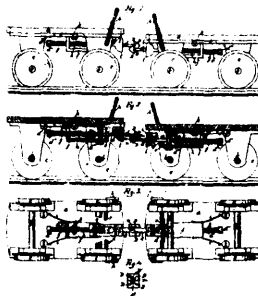
11329 Farr's Improvements on Heel Stiffeners.



11330 Watson's Improvements on Telegraphs and Telephones.



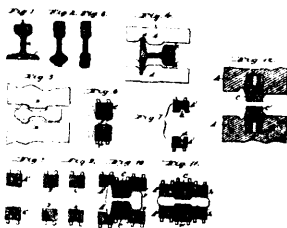
11331 Wible's Improvements on Vehicle Axles.



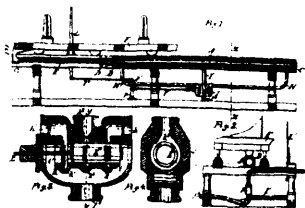
11332 Cutter's Improvements on Car Couplings.



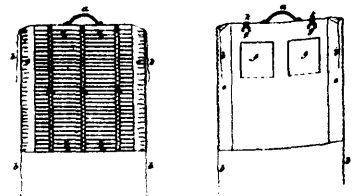
11333 Clark's Improvements in Spring Beds.



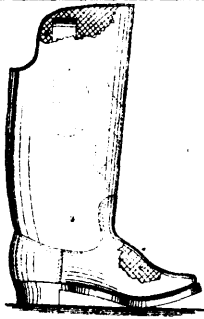
11340 Baldwin's Improvements on Railway Rails and Tools and Apparatus for the Same.



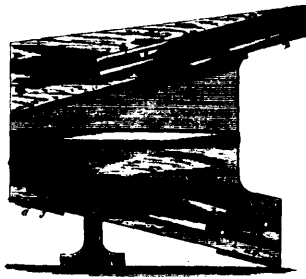
11341 Prescott's Improvements in Saw Mills.



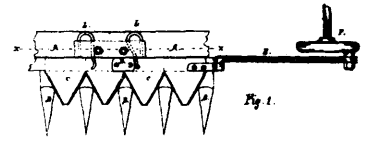
11342 Crofford and Van Dyke's Improvements on Valises, &c.



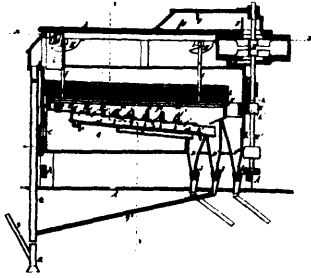
11343 Daggett's Improvements in Boots and Shoes.



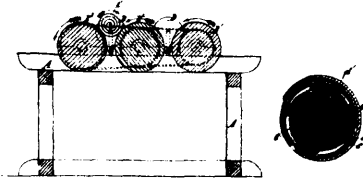
11344 Bennett's Improvements in Grain Separators.



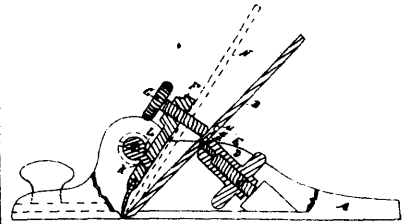
11345 Thomas's Improvements in Mowing Machines.



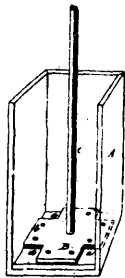
11346 Redfield's Improvements on Middlings Purifiers.



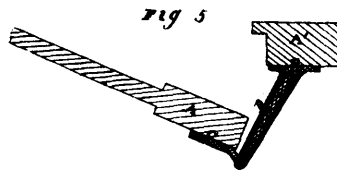
11347 Waring's Improvement on Hat Felting Apparatus.



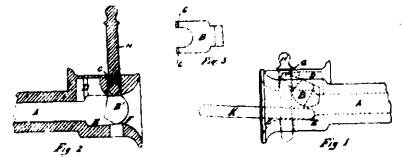
11348 Steers' Improvements on Metallic Planes.



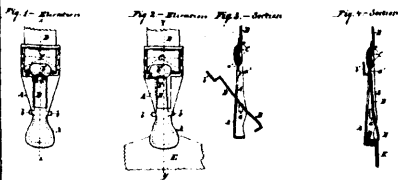
11349 Crowley's Improvements on Churns.



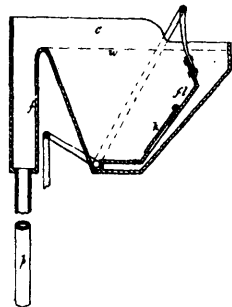
11350 Ellcott's Improvements in Door Guards.



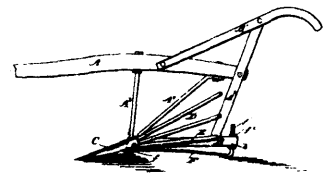
11352 Béchard's Improvements in Car-Couplers.



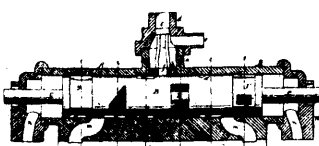
11353 Johnson's Improvements in Suspender Clasps.



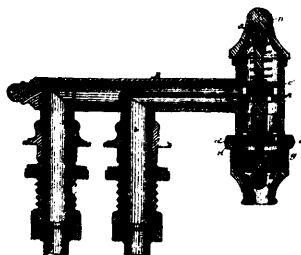
11354 White's Improvements in Closets &c.



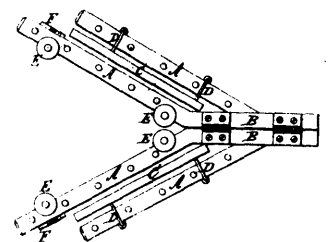
11355 Gates' Improvements in Potato-Diggers.



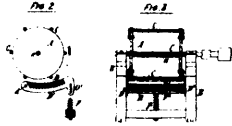
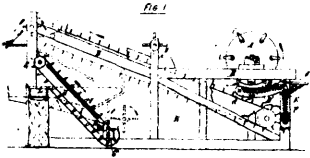
11356 Winter's Improvements on Cylindrical Valves.



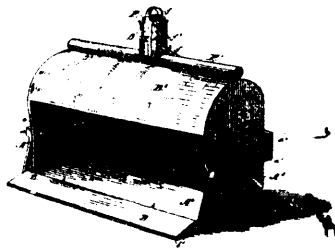
11357 Blessing's Improvements on Faucets or Cocks.



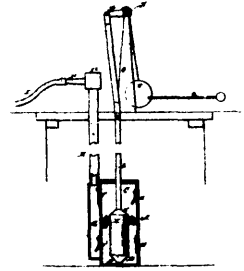
11358 Reiner's Improvements on Harrows.



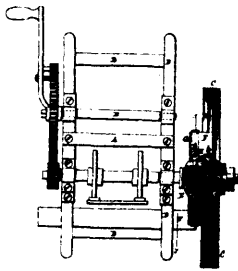
11360 Paradis' Improvements in Threshing Machines.



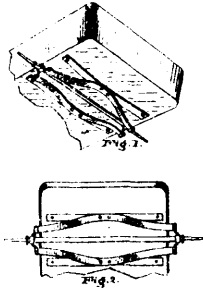
11361 Pyles & Lasley's Improvements in Dust Receivers.



11362 Cloud's Improvements in Pump Mechanisms.



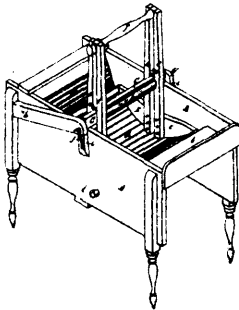
11363 Baldwin's Improvements on Fly Wheels.



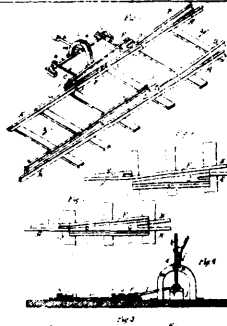
11364 Ludlow's Improvements on Carriage Springs and Axles.



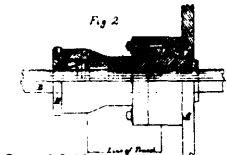
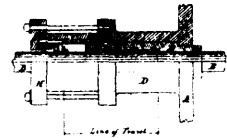
12365 Fraley's Improvements on Brooms.



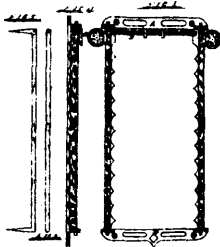
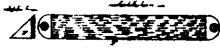
11365 White's Improvements in Washing Machines.



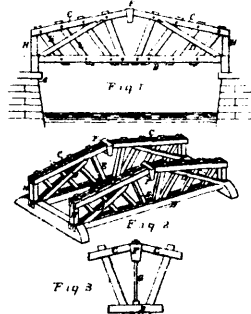
11367 Carey's Improvements in Railway Switches.



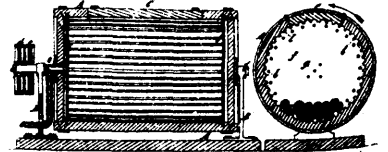
11368 Osgood & Monroe's Improvements in Valve Rod Support.



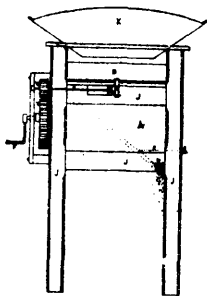
11369 Hunter's Improvements in Card Holders.



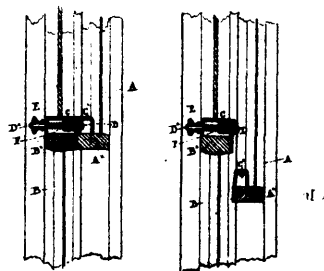
11370 Holt's Improvements in Bridge Trusses.



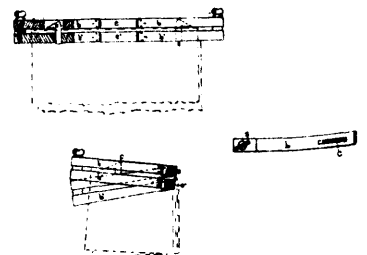
11371 Waring's Process of, and Apparatus for Felting Hat Bodies



11372 Lapointe's Separator for Peas.



11373 Rawbone's Improvement in Sash Fasteners.



11374 Fitch's Improvement in Newspaper Holders.