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CONTENTS.

INVENTIONS PATENTED,	121
INDEX OF INTENTIONS,	126
INDEX OF PATENTERS,	126
ILLUSTRATIONS,	127

INVENTIONS PATENTED.

No. 4002. JEREMIAH O. BROWN, (co-inventor, and Assignee of O. M. Sweet,) Forestville, N. Y., U. S., 2nd November, 1874, for 5 years: "Step Ladder." (Echelle à queue.)

Claim.—1st The combination with the main portion and pivoted standard of a step ladder of the adjustable brace C. 2nd. The combination with a step ladder of the side brackets F, F, forming a support for the upper step, and bearing for the hinged standard.

No. 4003. MILO J. ALTHOUSE, (co-inventor, and Assignee of G. Raymond,) Wanpan, Wis., U. S., 2nd November, 1874, for 5 years: "Wind Wheel." (Moulin à vent.)

Claim.—1st A wind wheel having its wings or sails pivoted in such manner that when the wheel is in motion, the centrifugal force tends to tip the wings edgewise to the wind, 2nd. The shaft B, of the wind wheel in combination with the sleeve or tube I, and sliding and rotating hub or collar C, the shaft working within the sleeve and the collar working upon the outside of the sleeve; 3rd. The hubs or collars C, D, composed of two pieces having a groove formed in their adjoining faces to receive and hold the pivot rod t, and having notches in their edges to receive the ends of the pivoted rods. 4th. In combination with the sliding collar C, the joint rods k, and l, and the weighted lever k, the said parts being arranged to operate as described; 5th. In combination with the pivoted wings I, and their brace rods b, c, the hub D, secured upon the shaft B, in such a manner as to permit its adjustment thereon for the purpose of setting the wings at any desired angle. 6th. The socket piece or bracket J, provided with a recess to receive the end of the bar H, and with an ear or projection r, to receive the pivot rod d; 7th. The tapering pin p, provided with a screw thread in combination with the metal piece O, all constructed as described to compensate for the wear of the parts and keep the joint tight.

No. 4004. DANIEL MOORE, Chicago, Ill., U. S., 2nd November, 1874, for 5 years: "Churn Dasher." (Batte-beurre.)

Claim.—The combination of the adjustable twisted dashers or agitators G, G, with bent arms E, F, disc or wheel B, and rod A, with sleeve D, as set forth.

No. 4005. JOSEPH HEAD, Andover, N. Y., U. S., 2nd November, 1874, for 5 years: "Leather Scouring Machine." (Machine à dégraisser les cuirs.)

Claim.—1st. The rectilinear reciprocating and vibrating working head E, combined with a vertically-adjustable frame B; 2nd. The extensible rod G, combined with the working head E, and the pitman F; 3rd. The bells p, supported upon anti-friction rollers r, r, r, in stationary stops q, in combination with the platform H, as set forth.

No. 4006. ALMOND F. COOPER, Cambridge, Mass., U. S., 2nd November, 1874, for 5 years: "Medicated Belt for Rheumatism." (Ceinture médicinale pour les rhumatismes.)

Claim.—A porous pad or belt containing a compound of alum (al. 2, O 3, 3 S O 3 x K, O. S. O. 3 x 24, H, O,) and borax (N, A, O, 2 B O 3 x 10 H O) as and for the purpose set forth.

No. 4007. NINIAN H. DOLSON, Chatham, Ont., 2nd November, 1874, for 5 years: "Automatic Car-coupling" (Attelage automatique de wagons.)

Claim.—1st. A side pulley E, so connected to the coupling pin O, as to elevate the latter when rotated; 2nd. A side pulley E, adapted to elevate the coupling pin O, and to be rotated from any suitable point on the car, 3rd. A vertical pin held by a volute or other suitable spring M, 4th. A spring buffer within the chamber adapted to relieve the shock on the entering link, 5th. A volute spring M, adapted to hold the pin O, in position for coupling or be compressed by the latter when elevated; 6th. Divided buffer or draw head, constructed in two sections B, C, 7th. The spring block or buffer I, having the elastic washer p, in combination with the buffer A, 8th. The block I, having the rod J, spiral spring K, and spring catch 5, in combination with the arm q, rod Y, dog or pawl Y1, and pulley E; 9th. The buffer A, having the chamber N, E, in combination with the pulley E, chain V, pulley cc, pin O, volute spring M; 10th. The combination of the buffer A, having the chamber N, with the cap or cover P, 11th. The sliding plate R, in combination with the slot Q, and pin O, 12th. The combination in an automatic car coupling of the sliding block I, spring catch 5, arm q, dog or pawl Y1, pulley E, chain V, pulley H, pin O, and volute spring M, all arranged and operating as specified.

No. 4008. OLIVIA P. FLYNT, Boston, Mass., U. S., 2nd November, 1874, for 5 years: "Improvements on Ladies' Garments." (Perfectionnements aux vêtements de femmes.)

Claim.—1st. The garment a, cut from the pattern Fig. 10, in the shape described, 2nd. The lining b, constructed as set forth, and attached at the bottom to the garment a, or to an ordinary "water-proof," or to a walking dress skirt of an, description, for the purpose specified, 3rd. The welts c, having their edges e, free and provided with outer pockets f, p, and inner pockets l, 4th. In combination with the pockets f, p, the tabs h, attached to the welts c; 5th. In combination with the welts c, and skirt of the garment a, the pockets m, as described.

No. 4009. LAURENCE D. ADAMS, Buffalo, N. Y., U. S., 2nd November, 1874, for 5 years: "Car-coupler." (Attelage de wagons.)

Claim.—1st. The draw-head B, employing a hook arrangement or its equivalent with the aperture D, and pin hole E, within its face so that the coupling of cars may be accomplished either by hook-link or both arrangements as described, 2nd. The draw-head B, the inclined catch plate C, extending transversely and projecting over the side plates of the draw-head B; 3rd. Reducing one or both of the side plates of the draw-head B, to allow unobstructed action of the hooks; 4th. The double levers L, L, when connected to each other in such a manner as to operate simultaneously as described.

No. 4010. HILLYARD SERVIS, (Assignee of C. M. Cooledge), Rochester, N. Y., U. S., 2nd November, 1874, for 5 years. "Process for

Producing Caricature Photographic Pictures.
(Procédé pour faire des caricatures photographiques.)

Claim.—The process of producing caricature photographic pictures by first having the same drawn or sketched on card-board or other inflexible material, and then having the board held or placed in front of the object to be photographed, arranged so as to present a complete, although disproportioned figure on the negative for the purposes described.

No. 4011. ANTHONY GOTH, and CLARENCE A. WOLLE, Bethlehem, Pa., U. S., 7th November, 1874, for 5 years: "Machine for Coating Paper with Oil Colours." (Machine à enduire le papier de couleurs à l'huile.)

Claim.—1st. The combination of a series of adjustable rollers for carrying the paper, and a roller for coating it with its oil colouring matter with the stirring tank H, provided with a rotary stirrer O, the adjustable smoothing bar R, provided with a cushion roller S, and the drying drum U, all operating as a single process in the manner specified; 2nd. The rotary stirrer O, in combination with the stirring tank H, and the coating roller N, operating to stir the colour and flow it against the roller in the manner specified; 3rd. The adjustable smoothing bar R, in combination with the cushion roller S, resting upon it and operating to adjust the tension of the paper and perfect the smoothing process as specified.

No. 4012. JAMES AUTHORS and WILLIAM F. MUNRO, Toronto, Ont., 7th November, 1874, for 5 years: "A Screw." (Une vis.)

Claim.—The hollowing of the head B, of the screw nail A, in the accompanying drawings.

No. 4013. AUSTIN D. CABLE, Montreal, Que., and OLIVER B. HOWARD, Portland, Me., U. S., 7th November, 1874, for 5 years: "Rack and Safe." (Garde-manger.)

Claim.—1st. The combination of the standard b, sockets c, and surfaces d; 2nd. The combination of the standard b, sockets c, surfaces d, with cover e, as set forth.

No. 4014. FREDERICK S. BARNJUM, Montreal, Que., 7th November, 1874, for 5 years: "Trowsers Stretcher." (Machine à étirer les pantalons.)

Claim.—1st. The combination of the frame or board a, with clasps b, and g, constructed and operating as set forth; 2nd. The combination of board a, clasps b, and g, link or other connection l, lever m, and rack o, constructed and operating as set forth.

No. 4015. CHARLES A. HUSSEY, New York, U. S., 7th November, 1874, for 15 years: "Railway Axle Box." (Boite d'essieu de railroute.)

Claim.—The interposition of leather or other flexible or yielding material between the wheel hub and axle box so arranged as to make tight joints for excluding dust and retaining the lubricating oil and allowing the axle to vibrate; the flanges G, H, rings I, and K, and faced ring J, arranged in combination with the leather or other packing E, the springs L, or their equivalents, in combination with the ring J, as described.

No. 4016. GEORGE WOODS, Cambridgeport, Mass., U. S., 7th November, 1874, for 5 years: "Process for Drying Lumber." (Procédé de séchage du bois.)

Claim.—The process for drying lumber, etc., consisting in forcing water through a receptacle in the heated drying chamber, on the surface of which receptacle the moisture from the lumber, etc., is condensed and conducted from the drying room in the manner set forth.

No. 4017. KENNETH MCKENZIE, Hamilton, Ont., 7th November, 1874, for 5 years: "Revolving Oven Cooking Stove." (Poele de cuisine à fourneau tournant.)

Claim.—1st. The plate B, revolving on a central pivot or shaft within the oven A, of a stove; 2nd. The combination of the revolving plate B, to turn within the oven A, a central shaft C, endless-screw G, on a shaft within the smoke pipe and cog-wheels D, E, or suitable gear for rotating the plate B, by the draft current within the stove pipe, as described.

No. 4018. LYMAN B. STILSON, Minneapolis, Minn., U. S., 7th November, 1874, for 5 years: "Safety Car-shoe." (Sabot de sureté pour les wagons.)

Claim.—The supporting-timbers D, in combination with the springs E, and shoes A, as specified.

No. 4019. KENNETH MCKENZIE, Hamilton, Ont., 7th November, 1874, for 5 years: "Sheet Pattern Cutting Block." (Bloc pour découper des feuilles de patrons.)

Claim.—A pattern cutter composed of flat blocks shaped edge-wise to pattern, and receiving along such edges, rule edge knives B, the whole locked together solidly in a chase C, to be used as set forth.

No. 4020. CHARLES ROMMEL, Elizabeth, N. J., U. S., 7th November, 1874, for 15 years: "Polychromatic Printing Machine." (Machine à impression polychromatique.)

Claim.—1st. The prismatic printing roller B, suspended from the shaft b, to receive vertical motion and connected with wheel m, for receiving intermittent rotary motion; 2nd. The printing roller B, having racks q, at one thereof to guide colouring rollers; 3rd. The spider frame D, having arms h, with slots i, and side ratchet wheels g; 4th. The combination of spider frame D, with pawls f, arms e, eccentrics e, and shafts b, to produce intermittent rotary motion of frame D; 5th. The connection of lever O, and leg p, of printing roller B, with pawl f, to keep spider frame D, at rest for passage of finishing block; 6th. The colouring rollers C, having mutilated pinions r, and weighted colour boxes q; 7th. The weighted colour boxes q, provided with vertical partitions for using different colours on one block and with guard s, for preventing upsetting when passing along printing blocks; 8th. The combination of colouring rollers C, with segmental guides l, straight pieces m, and springs n, of frame A, for guiding the rollers over printing block B; 9th. The table motion produced by eccentrics u, pawls t, ratchets u, u, in combination with cloth rollers F, P, and moveable frame G; 10th. The loose ratchet u, having deep notch so that pawl t, gears with tight ratchet u, after every full rotation of printing roller B; 11th. The eccentric cylinders H, and H, and guiding clamp levers v, and v, in connection with ratchet wheels u, and u, pawls w, frame and printing bed E; 12th. The loose ratchet u, having two deep notches to produce the consecutive engaging of pawl w, into tight ratchet u; 13th. The combination of the printing roller B, spider frame D, the table motion side eccentrics H, H, with clamp levers v, v, and intermediate parts with frame A, forming the polychromatic printing machine as described.

No. 4021. JOHN NEY, Jr., ELLICE and AARON ELY, Downie, Ont., 7th November, 1874, for 10 years: "Machine for the Catching of Potato-bugs." (Machine pour prendre les pucerons à patates.)

Claim.—1st. The combination of the cross-shaft S, and the wings or fans F, F, in such a manner as to produce simultaneous action on each side of the machine towards the centre of the frame A; 2nd. The combination of the cross-shaft S, and the driving wheel B, so as to obtain the necessary motive power.

No. 4022. THOMAS E. ROBERTS, Ionia, Mich., U. S., 7th November, 1874, for 5 years: "Spark Arrester and Consumer." (Arrête-flammèches pour les consumer.)

Claim.—The dome at the top of the smoke pipe, the lining in the upper portion of the pipe, and a conductor or conductors extending down the pipe, through the smoke arch and connecting with some of the boiler flues, all combined with a locomotive in the manner described for returning smoke and cinders to the furnace; the partition I, in the dome A, in combination with partitions F, in space L, and the conductor H, as specified.

No. 4023. JAMES TOMLINSON, Goderich, Ont., 7th November, 1874, for 5 years: "A Barrel." (Un baril.)

Claim.—1st. The combination of the exterior sheathing A, and the interior sheathing B; 2nd. The combination of the metallic sheet C, with the sheathings A, and B; 3rd. The use of plain sheets of wood steamed and bent in cylindrical or part cylindrical form as substitute for staves in the making of barrels.

No. 4024. GEORGE L. ANDERS, Boston, Mass., U. S., 7th November, 1874, for 5 years: "Printing Telegraph Instrument." (Appareil de télégraphie imprimant.)

Claim.—1st. A polarized electro-magnet for releasing in a step by step motion the type wheel impelled by mechanical power, by passing currents alternating in their polarity rapidly through it, in combination with an electro-magnet controlling the printing mechanism and placed in the same circuit with the polarized electro-magnet and excited by the same currents, and arranged to attract and hold its armature until a sufficient interval between the pulsations occurs to release the same and allow the press mechanism to operate and effect an impression; 2nd The combination with the printing mechanism and the type wheel mechanism of the one main spring actuating both; 3rd. The arrangements of springs X, X¹, of brass or other non-magnetic material of suitable strength or thickness on each side of the polarized armature X; 4th. The sliding unison bar B, having serrated edges, in combination with the latch a, pivoted spring lever f, and spring e, all arranged and operating as described.

No. 4025. EDMUND C. TOZER, New Castle, N. B., 7th November, 1874, for 5 years: "Freezing Apparatus." (Appareil congélateur.)

Claim.—1st. The arrangement and combination with the preserving chamber of trough E, the vertical tubes F, and horizontal tubes G; 2nd. The cylinder I, arranged centrally within the freezing chambers; 3rd. The pipes H, arranged horizontally under the coiling, in combination with the trough E; 4th. The water pipes J, K, arranged between the inner and outer floors, and receiving waste water from the cylinder L, and tube G; 5th. The combination and arrangement of the troughs E, pipes F, tubes G, central cylinder I, and pipes J, K, with a preserving chamber having inner and outer walls, ceiling and floor as set forth.

No. 4026. LOUIS A. DESSAULLES and WILLIAM MURPHY, Montreal, Que., 7th November, 1874, for 5 years: "Boot and Shoe Eyelets." (Œillet de chaussures.)

Réclame.—1o. La combinaison des œilllets a, F, H, avec les sections des tubes courbes B, B; 2o. La combinaison de l'œillet tubulaire et courbe B, avec la languette d, et les griffes f, e; 3o. La combinaison de l'œillet à roue fixe J, avec les gardes k, l, et griffes m, n; 4o. La combinaison de l'œillet à roue mobile K, avec la crampe plate o; 5o. La combinaison de la crampe plate L, avec la marge d'une chaussure pour former un œillet; 6o. La combinaison des œilllets B, Fig. 2, B, Fig. 4, B, Fig. 6, B, Fig. 8, J, Fig. 10, K, Fig. 12, L, Fig. 14, construit tel que décrit, avec les lacets D, pour lacer les chaussures ainsi que E, Fig. 16.

Claim.—1st. The combination of the eyelets F, H, with the sections of the bent tubes B, B; 2nd. The combination of the tubular and bent eyelet B, with the tongue d, and the claws f, e; 3rd. The combination of the eyelet on the fixed wheel J, with the guards k, l, and claws m, n; 4th. The combination of the eyelet on the movable wheel K, with the flat cramp L; 5th. The combination of the flat cramp L, with the edge of a shoe to form an eyelet; 6th. The combination of the eyelet B, Fig. 2, B, Fig. 4, B, Fig. 6, B, Fig. 8, J, Fig. 10, K, Fig. 12, L, Fig. 14, constructed as described with the lace D, to lace the shoe as at E, Fig. 16.

No. 4027. WILLIAM SHAVER, Kemptville, Ont., 7th November, 1874, for 5 years: "Improvements on Sewing Machine." (Perfectionnements aux machines à coudres.)

Claim.—1st. The whorl A, soldered to the roller-bolt B; 2nd. The combination of the rubber balls H, H¹, with the whorl A; 3rd. The combination of the whorl A, soldered to the roller bolt B with the pintle E, rod F, and slotted guide G, as set forth.

No. 4028. ALEXANDER D. MCKENZIE and OWEN G. HUGHES, Toronto, Ont., 7th November, 1874, for 5 years: "Dump Waggon." (Wagon-tombreau.)

Claim.—1st. The application to waggons, trucks, and carts for carrying earth work or other material, of a hinged bottom B; 2nd. The strap C, attached to the wagon bottom B, with cylindrical ends C, in combination with the pivoted spring latches D; 3rd. The spring latches D, bar D¹, in combination with and connected to the pivoted lever F; 4th. The pivoted lever H, standard H¹, in combination with the connecting ropes I, and I¹, friction rollers, and wagon-bottom B, arranged as described.

No. 4029. GEORGE D. THORNHILL, Xenia, Ohio, U. S., (Assignee of W. Coulter), 7th November, 1874, for 5 years: "Car-coupling." (Attelage de wagon.)

Claim.—1st. The combination of the pivoted treadle D, provided with weighted arms h, with the spring coupling pin C, and bumper head A, constructed to operate as specified; 2nd. The link support E, to slide directly back, and be shielded by the bumper head A, and to be drawn simply forward to support the coupling link in combination with the bumper head A, and coupling link B, as specified.

No. 4030. JAMES BRADLEY, Akron, Ohio, U. S., 7th November, 1874, for 5 years: "Spark-arrester." (Arrête-flammèches.)

Claim.—The combination of the inverted cone E, supported above the tapering pipe D, and the lifting pipe B, located at the base of the smoke stack C, when the surfaces of all are provided with alternately arranged studs a, in the manner specified.

No. 4031. JOHN GREGORY, Wingham, Ont., 7th November, 1874, for 5 years: "Middlings Purifier." (Épurateur des gruaux.)

Claim.—1st. The revolving reel B, dipping at one end from the horizontal, supported on the friction rollers D, and covered with one or more grades of bolting cloth, and having the circular toothed rack B¹ attached in combination with the revolving toothed wheels C; 2nd. The revolving wheel B, with inwardly projecting ribs B², in combination with the fixed angle boards C, and spout H, and suction fan I; 3rd. The revolving fluted rollers G¹, in combination with the angle boards G; 4th. The air spout H, consisting of the peculiarly constructed leaders H¹, and H²; 5th. The conveyor H³, in combination with the leader H¹; 6th. The air tight ca-o B³, attached to the frame A, and enclosing the upper part of the reel B; 7th. The construction and arrangement of the frame A, with driving attachments, revolving reel B, and attachment suction fan I, and air chamber H⁴, purified middlings spout J, arranged as described.

No. 4032. JOHN S. ROBINSON, Canandaigua, N. Y., U. S., 7th November, 1874, for 5 years: "Process for Chilling, Carbonizing and Toughening Plough Mould Board and other Castings." (Procédé pour tremper, carboniser et durcir la fonte des charrues et autre.)

Claim.—1st. The process for hardening and toughening the surfaces of cast iron mould boards for ploughs; 2nd. The employment of charcoal and the application of the same, to heated surfaces of cast iron when the latter is in such a condition as to produce combustion of said charcoal in the manner specified.

No. 4033. FRANCIS SNOWBALL and JOHN C. NICHOL, Montreal, Que., 7th November, 1874, for 5 years: "Artificial Marble and Stone." (Marbre et pierre factices.)

Claim.—1st. A composition of artificial marble consisting of Keen's cement, French chalk, sulphate of potassium, chloride of sodium and alum, with or without any colouring ingredient or ingredients mixed in the proportions described; 2nd. A composition for artificial stone consisting of any suitable cement, French chalk, sulphate of potassium, chloride of sodium and alum, with or without colouring matter, as described.

No. 4034. JOHN B. ARMSTRONG, Guelph, Ont., 7th November, 1874, for 5 years: "Steel Tempering Furnace." (Fourneau à recuire l'acier.)

Claim.—1st. The process of tempering steel or other metals the said process consisting in heating steel within a close retort or oven to a specified degree previous to immersion in water or other liquids for the purpose of hardening, and in the letting down or tempering of steel to a specified degree within a close retort or oven, and lastly in the application of the pyrometer to retorts, ovens, or furnaces, in which steel is placed to heat in tempering, for the purpose of gauging the heat within the same; 2nd. The furnace A, with ash pit B, beneath close retort D, with alternately arranged flues E, arranged and operating as described; 3rd. The blast pipe F, consisting of the inner pipe F¹, perforated with the spirally arranged holes f, in combination with the outer pipe F², perforated with the holes f, arranged and operating as described; 4th. The cut-off dampers G, G, placed at the exit ends of the flues E, in combination with the blast pipe F, arranged and operating as described; 5th. The doors H, consisting of the frames H¹, constructed to leave a margin of brickwork between the inner edge of the furnace and retort openings and the rim door H², fitted in with fire brick h, arranged and operating as described.

No. 4035. JOHN ABSTERDAM, New York, U. S., 7th November, 1874, for 5 year: "Process for the Manufacture of Illuminating Gas." (Procédé de fabrication du gaz d'éclairage.)

Claim.—1st. The process of producing illuminating gas by injecting a current of steam under pressure into the interior of a closed vessel or still containing rosin, petroleum or other hydrocarbon capable of liquefaction, and after having thus carbonized said steam, decomposing the same in retorts heated red hot as set forth, in the process of manufacturing illuminating gas by passing hydro-carbon fluids through retorts charged with metallic ore as described.

No. 4036. JAMES BIRD, Naugatuck, Ct., U. S., 7th November, 1874, for 5 years: "Eccentric Pulley-block." (Moufle de poulie à eccentricque.)

Claim.—1st. The annular sheave D, fitted upon an eccentric coak or bushing C, so that it may serve for binding the rope; 2nd. The combination of the lever E, with the eccentric bushing C, and annular sheave D, of a pulley-block and with the cam b, of the shell as specified.

No. 4037. JUNIUS JUDSON and WILLIAM A. COGSWELL, Rochester, N. Y., U. S., 7th November, 1874, for 5 years: "Steam Governor." (Régulateur de vapeur.)

Claim.—1st. The combination of the spring E, with the driving pulley J, and shaft D, for the purpose of preventing the impulses of the engine from being transmitted to the governor; 2nd. The combination with the spring E, of the ring or collar c, resting within the spring and loosely upon the shaft; 3rd. The combination with the spring pulley J, and shaft D, of the stop *s*, and pin *f*, as specified.

No. 4038 JOHN B. ORR, Glasgow, Scot., 7th November, 1874, for 5 years: "White Enamel Paint." (Peinture blanche à émail.)

Claim.—The division of the barium sulphide liquor into different equal portions, the precipitation by zinc chloride or by zinc nitrate, and thereafter by zinc sulphate, also the calcination of the mixed precipitates at a bright red heat and the sudden chilling of the same whether pressed or not, and thereby producing the white pigment as described.

No. 4039. MERRILL CHASE, Jr., and CHARLES S. MUIR, St. John, N. B., 14th November, 1874, for 5 years: "Shingle Machine." (Machine à bardeau.)

Claim.—1st. The combination of the polygonal sided bolt carrier A, toothed cog wheel P, and bevelled gears L, M, O; 2nd. The arrangement and combination of the tapering belt shafts J, K, for driving the saw, and bolt-carrier; 3rd. The friction roller R, and its pivotal frame Q, operated by hand lever S, in combination with the tapering belt shaft J, K, for controlling the stoppage of the bolt-carrier; 4th. The combination with the revolving bolt carrier of a fixed circular disc K', having a peripheral cam groove *f*, for operating the pushing pawls H, and the feed rollers G; 5th. The combination of the fixed and moveable bolt clamping arms *d*, *d*, with the feed rollers G, and polygonal bolt carrier; 6th. The arrangement of the feed roller G, with saw U, and planer I; 7th. The combination of the clamping *d*, duplex cam lever D, standard C, and springs F, all operating as described.

No. 4040. MICHAEL CALLEN, Innerkip, Ont., 14th November, 1874, for 5 years: "Lime Kiln." (Fourneau à chaux.)

Claim.—1st. The fire places A, placed side by side in combination with a corresponding pair of fire places A, on the opposite side of the kiln; 2nd. The oval shape of the conical shaft or cupola F, in combination with the fire places A, as set forth.

No. 4041. DAVID W. LONG, Parkersburg, W. Va., U. S., 14th November, 1874, for 5 years: "Surety Hinge." (Penture de sûreté.)

Claim.—1st. The leaves A, A, united by means of a link pintle C. 2nd. The combination with a link pintle C, of the leaves A, A, having arms or wings B, B, formed on them; 3rd. Washers c, combined with the link pintle C, and wings A, A, as described.

No. 4042. SETH WILMARTH, Malden, Mass., U. S., 14th November, 1874, for 5 years: "Water Motor." (Moteur Hydraulique.)

Claim.—The two horizontal cylinders A, A, each provided with an inlet chest *i*, on its upper side and outlet chest *k*, on its under side and with inlet ports *l*, *m*, placed a short distance from its end and outlet ports *v*, *w*, in combination with the elongated pistons *u*, connected with a single shaft *h*, and the slide valves *p*, *q*, all constructed and arranged to operate together in the manner set forth.

No. 4043. ALEXANDER RODGERS, Muskegon, Mich., U. S., 14th November, 1874, for 5 years: "Machine for Moving logs." (Machine à remuer les billots.)

Claim.—1st. The log moving mechanism, consisting of the spring knees, in combination with the carriers, their operating devices

and sustaining parts as described; 2nd. The spring knee C, or its equivalent as specified.

No. 4044. JAMES W. UPSON, Sallmadge, Ohio, U. S., 14th November, 1874, for 5 years: "Apparatus for Screening and Loading Coal." (Appareil à cribler et charger le charbon.)

Claim.—1st. The gate *a*, and gate carrier C, in combination with a coal chute; 2nd. The swing K, secured to the frame of the chute to open the gate of the carrier at the lower mouth of the chute and check the impetus of the carrier gained in the descent in the manner described; 3rd. The combination of the gate *a*, and bar *g*, with the incline *l*; 4th. The combination of the gate *a*, and bar *g*, with the incline *l*; 5th. The screen bars consisting of the head A, and web B; 6th. The combination of the screen bars consisting of the head A, web B, strips D, and bolt C; 7th. The brake consisting of the windlass or wheels *m*, *n*, straps or rubbers *o*, *p*, arm *q*, shaft *r*, and lever *s*, in combination with the coal carrier cord *c*, and weight *v*; 8th. The moveable track consisting of the rails B₁, B₂, supported in front by the axle H, and wheels I, L, and in the rear by the axle F, and wheels G, G, in combination with the inclined rails K, K; 9th. The adjustable apron J, in combination with the moveable track E₁, and coal chute; 10th. The moveable track E₂, when arranged in relation to the tramway B₁, B₂, that the car may pass from said tramway on to said moveable track, and be carried forward and the load discharged from the car into the chute automatically; 11th. The moveable track E₃, drum L, rope S, rope W, weight Y, pulley P, rope O, and hand wheel Q, all arranged and combined to operate in the manner described.

No. 4045. WILLIAM GOLDING, New Orleans, La., U. S., 14th November, 1874, for 5 years: "Steam Generator." (Générateur de vapeur.)

Claim.—1st. The method of generating steam in steam boilers by means of previously heated masses of metal or equivalent substances; 2nd. A steam generator having within its water space a close chamber A, for the reception of heated masses of metal as specified.

No. 4046. THEODORE L. HUBBARD, ISAAC HUBBARD, CHAUNCEY B. HUBBARD & JOSEPH M. HUBBARD, Port Huron, Mich., U. S., 14th November, 1874, for 5 years: "Ship's Winch." (Grue de navire.)

Claim.—The combination with ratchet wheel C, and shaft B, journalled in the bits by the bolt *a*, and provided with pinholes C, to vary the throw of the plates F, F, the lever socket E, and the dog plates F, F₁, pivoted to the ends of the plates D, the several plates being constructed and arranged to operate as set forth.

No. 4047. MARK A. CUSHING, Aurora, Ill., U. S., 14th November, 1874, for 5 years: "Tubular Hot Air Furnace." (Calorifère tubulaire.)

Claim.—1st. The tubular fire-pot built up of single tubes C, secured between the perforated flange of the cone B, and the perforated annular plate D. 2nd. A tubular fire-pot C, cast in one piece, or in sections having one or more tubular air passages moulded in them; 3rd. The combination chamber E, of the pendant air flues *i*, passing through the said combustion chamber as set forth.

No. 4048. DANIEL P. DIETERICH, Philadelphia, Pa., U. S., 14th November, 1874, for 5 years: "Improvements on Gum Shoe." (Perfectionnement des souliers de caoutchouc.)

Claim.—The combination of a strip or strips of woollen or felted fabric *d*, with the outer and innersoles of a gum boot or shoe.

No. 4049. FRANKLIN BARBER, Detroit, Mich., U. S., 14th November, 1874, for 5 years: "Improvements on Rocking chairs." (Perfectionnements aux fauteuils à bascule.)

Claim.—The combination of a rocking or tilting chair, of the spider A, boxes B, spring C, fulcrum *h*, set-screw *m*, and buffers *n*, as set forth.

No. 4050. WILLIAM BECK, Batavia, N. Y., U. S., 14th November, 1874, for 5 years: "Metallic Hoop-lock." (Entaille de cercle de métal.)

Claim.—A metallic hoop-lock formed by slitting the hoop transversely to interlock as described, and indenting the overlapping parts, in the manner set forth.

No. 4051. WILLIAM BECK, Batavia, N. Y., U. S., 14th November, 1874, for 5 years: "Tire Tightener." (Appareil à serrer les bandages des roues.)

Claim.—The combination of jaws A, A, grooved to receive the spoke intermediately, the nutted clovis B, jack screws B, B, clamping screw F, and plate E, arranged and operating as set forth.

No. 4052. JOHN E. DUSTIN, ALSON L. BROWN and WARREN G. BROWN, Whitefield, N. H., and AARON ORDWAY, Lawrence, Mass., U. S., 14th November, 1874, for 5 years: "Spark Arrester." (Arrête-flammèches.)

Claim.—1st. In combination with the stack or chimney *a*, and the perforator deflector *b*, arranged as described, the reservoir *d*, when said reservoir is supplied by a continuous stream of water from a stationary head through supply pipe *f*, and provided with a discharge pipe *g*, to preserve the water at the proper level in the reservoir and to float off, by a continuous current, the sparks, cinders, &c. 2nd. The combination with the stack perforated deflector, and the reservoir *d*, supplied from a continuous stream from a stationary or elevated head, with a discharge pipe of a water supply pipe located within the smoke stack, as set forth.

No. 4053. HERMENEGILE B. CASGRAIN, Ottawa, Ont., 14th November, 1874, (Extension of Patent No. 150), for 5 years: "Paper-tyle." (Serre-dossier.)

Claim.—1st. The art of superposing the f'les independently or combined as described for easy reference: 2nd. The arrangement and combination of the block B, with the cover board A, and tape C, and the mode of attaching the binding tape C, to the board A, substantially as described for the purpose set forth.

No. 4054. DANIEL SULLIVAN, Bangor, Me., U. S., 17th November, 1874, for 5 years: "Steam Boiler." (Chaudière à vapeur.)

Claim.—In combination with the casing *a*, and boiler *b*, having the space *g*, between them at one end, the tubes *i*, and *i*, stop *h*, supplemental head *j*, and passages *l*, constructed and operating as set forth.

No. 4055. FRANK A. HIBBARD, Stanbridge East, Que., 17th November, 1874, for 5 years: "Steamer and Heater." (Appareil de cuisine à vapeur.)

Claim.—1st. The combination of the steamer A, drawers or sliding chambers B, slides D, and heating chamber F; 2nd. In combination with any steamer A, the drawers B, resting on movable or fixed slides D; 3rd. In combination with any steamer, the drawers B, having perforations C, and C, and with the ends or one side thereof arranged to lift up or let down as set forth.

No. 4056. ALFRED DE GARIS, New York, U. S., 17th November, 1874, for 5 years: "Apparatus for Fattening Fowls." Appareil à engraisser des volailles.)

Claim.—1st. The cylinder A, piston B, flexible tube C, with mouth piece *d*; 2nd. The drum *h*, with hand *j*, dial K, and chain *l*, in combination with the piston B, as set forth.

No. 4057. EDWARD B. MEATYARD, Geneva Lake, Wis., U. S., 17th November, 1874, for 5 years: "Elastic Railway Car Wheel." (Roue de voiture de railroute élastique.)

Claim.—The rim A, or the hub C, and the curved radially cut disc B, secured to the rib *d*, of the rim A, and to the hub C, by suitable means all combined as specified.

No. 4058. JACOB BOWMAN, Harrisburg, Ont., 17th November, 1874, for 5 years: "Hot Air Drum." (Poêle sourd à air.)

Claim.—1st. The combination with the drum A, of the dampers D, D₁, more or less placed and arranged at three angles to each other in the drum as shown in Figs. 2 and 3: 2nd. The arrangement of the rods G, H, I, with holes *a*, and pins Q, attached to and operating the said dampers D, D₁, D₂, respectively; 3rd.

The arrangement of the openings K, false bottom P, and slide L, when combined with a drum heater A, as specified; 4th. The arrangement of the dampers D, D₁, D₂, when combined with a common stove pipe.

No. 4059. JOSEPH M. GROOVER, Oxford, Mich., U. S., 17th November, 1874, for 5 years: "Binding Attachment to Harvesters." (Disposition des moissonneuses pour lier.)

Claim.—1st. The driving shaft D, pulley F, crank pin *a*, pitman *b*, cross-head *c*, link *d*, lever *e*, link *f*, block G, ways H, shaft *g*, ho ked sector *h*, flange *i*, racks I, I, gears *j*, *j*, shaft *k*, gripping plate *h*, spring bale *k*, hook *ks*, rail *l*, parting post *l*, frame *m*, *m*, and spring *m*, constructed and combined with the sills A, A, table B, bottom board B₂, platform B₁, and adapted to be driven by the mechanism of a reaper for forming a straw band; 2nd. The combination with the lever *e*, of the levers J, J, J, J, J, J, rods *n*, *n*, and guides *o*, *o*, for carrying the ends of the band to the carriers L, L. 3rd. The combination of the jointed carriers L, L, each provided with a bell crank *r*, clamp plate *r*, and spring *r*, the levers L₁, L₂, L₃, L₄, bell crank *l*, and rod P, with the frame P₁, and lever P₂, for wrapping the band around the bundle; 4th. The combination of the shaft O, clutch pulley O₁, clutch box O₂, vertical shaft N, gears N₁, N₂, slotted arms N₃, hooks *q*, shafts *q*, studs *q*, and springs *q*, with the pulley E for twisting the ends of the band. 5th. The shaft *s*, hook S₁, bearings *u*, *u*, springs *v*, *v*, segment T, cam W, treadle Q₁, lever K, crank shaft C, and pinion E, combined with the spur wheel E, and standards M, M, for tucking the ends of the band under itself as described.

No. 4060. SAMUEL RUE, Philadelphia, Pa., U. S., 17th November, 1874, (Extension of Patent No. 2849), for 5 years: "Improvements on Injectors for Steam Generators." (Perfectionnements aux injecteurs de vapeur.)

Claim.—1st. A single casting with two chambers at the ends thereof or plug in each chamber, and an intermediate tube extending from one chamber to the other; 2nd. The tapering bores of the plugs and intermediate tube diminishing from the steam pipe to the delivery tube; 3rd. A jet of steam introduced into the overflow; 4th. The lever M, applied as described and adapted for a right or left hand injector; 5th. A valve in the overflow as set forth; 6th. The steam pipe *s*, in combination with the tube H, and over-flow chamber; 7th. The tubular passage T, with opening T₁, and the valve V, in combination with the over-flow tube H, and plug D₁.

No. 4061. SAMUEL RUE, Philadelphia, Pa., U. S., 18th November, 1874, (Extension of Patent No. 2849), for 5 years: "Improvements on Injectors for Steam Generators." (Perfectionnements aux injecteurs de vapeur.)

No. 4062. ELIPHALET S. SCRIPTURE, Brooklyn, N. Y., U. S., 18th November, 1874, for 5 years: "Adjustable Wrench." (Clé à écrou mobile.)

Claim.—1st. In combination with the soft metal rack bar A, the movable jaw B, provided with the hard steel nut E; 2nd. The rack-bar A, having the relief groove *f*, formed in its face, in combination with the hard ratchet-nut E, attached to the movable jaw B, and provided with the notches *h*; 4th. The unalterable iron rack bar A, provided with the recessed sides and the rounded back as described.

No. 4063. JOHN E. WATSON, Louisville, Ky., U. S., 18th November, 1874, for 15 years: "Water Gauge." (Indicateur du niveau d'eau.)

Claim.—1st. In combination with the float F, and its rods F₁, E, the arm C, springs *a*, *a*, and magnetic battery wires, as described; 2nd. The needle *h*, on oscillating bar *f*, combined with crank *e*, and an arm which is actuated by a float F, inside of a boiler as described.

No. 4064. ARCHIBALD HADDEN, Goderich, Ont., 18th November, 1874, for 5 years: "Machine for Cramping." (Serre-joints.)

Claim.—The arrangement of lever No. 2, in combination with the spring No. 4, connected with and applied to block No. 3, as described, also the two legged horse and the clovis No. 8, in combination with No. 7, and lever No. 2, as specified.

INDEX OF PATENTEES.

Absterlam, John, process for the manufacture of illuminating gas.....	4035
Adams, Lawrence D., car coupler.....	4009
Althouse, Milo J., (assignee), wind wheel.....	4008
Anders, George L., printing telegraph instrument.....	4024
Armstrong, John B., steel tempering furnace.....	4034
Authors, James, and W. F. Munro, screw.....	4012
Barber, Franklin, rocking chairs.....	4049
Barnjum, Frederick S., Trowsers stretcher.....	4014
Beck, William, metallic hoop lock.....	4050
" " tire tightener.....	4051
Bird, James, eccentric pulley block.....	4036
Bowman, Jacob, bot air drum.....	4058
Bradley, James, spark arrester.....	4080
Brown, Alson L., and Warren G., J. E. Dustin, and A. Ordway, spark arrester.....	4052
Brown, Jeremiah O., (assignee), step ladder.....	4002
Cable, Austin D., and O. B., Howard, rack and safe.....	4018
Callen, Michael, lime kiln.....	4040
Casgrain, Hermenegile B., paper fyle.....	4053
Chase, Merrill, Jr., and C. S. Muir, shingle machine.....	4039
Cogswell, William A., and J. Judson, steam governor.....	4037
Cooper, Almond F., medicated belt for rheumatism.....	4006
Cushing, Mark A., tubular hot air furnace.....	4047
Dessaulles, Louis A., and W. Murphy, boot and shoe eyelets.....	4026
Dieterich, Daniel P., gum shoe.....	4048
Dolson, Ninian H., automatic car-coupling.....	4007
Dustin, John E., A. L., and W. G. Brown, and A. Ordway, spark arrester.....	4052
Ely, Ellice, and Aaron, and J. Ney, Jr., machine for catching potato bugs.....	4021
Flynt, Olivia P., ladies' garments.....	4008
Garis, Alfred de, apparatus for fattening fowl.....	4056
Golding, William, steam generator.....	4045
Goth, Anthony, and C. A. Wolle, machine for coating paper with oil colours.....	4011
Gregory, John, middlings purifier.....	4031
Groover, Joseph M., binding attachment for harvesters.....	4059
Hadden, Archibald, machine for cramping.....	4064
Head, Joseph, leather scouring machine.....	4005
Hibbard, Frank A., steamer and heater.....	4055
Howard, Oliver, B., and A. D. Cable, rack and safe.....	4018
Hubbard, Theodore L., Isaac, Chauncey B., and Joseph M., ships' wrench.....	4046
Hughes, Owen G., and A. D. McKenzie, dump waggon.....	4028
Hussey, Charles A., railway axle box.....	4015
Judson, Junius, and W. A. Cogswell, steam governor.....	4037
Long, David W., surety hinge.....	4041
McKenzie, Alexander D., and O. G. Hughes, dump waggon.....	4028
Mckenzie, Kenneth, revolving oven cooking stove.....	4017
" " sheet pattern cutting block.....	4019
Meatyard, Edward B., elastic railway car wheel.....	4057
Moore, Daniel, churn dasher.....	4004
Muir, Charles S., and M. Chase, shingle machine.....	4039
Munro, William F., and J. Authors, screw.....	4012
Murphy, William, and L. A. Dessaulles, boot and shoe eyelets.....	4026
Ney, John, Jr., E., and A. Ely, machine for catching potato bugs.....	4021
Nichol, John C., and F. Snowball, artificial marble and stone.....	4033
Ordway, Aaron, J. E. Dustin, A. L., and W. G. Brown, spark arrester.....	4052
Orr, John B., white enamel paint.....	4038
Roberts, Thomas E., spark arrester and consumer.....	4022
Robinson, John S., process for chilling, carbonizing and toughening plough mould board and other castings.....	4032
Rodgers, Alexander, machine for moving logs.....	4043
Rommel, Charles, polychromatic printing machine.....	4020
Rue, Samuel, injectors for steam generators.....	4061
Scripture, Elizabeth S., adjustable wrench.....	4062
Servis, Hillyard, (assignee), process for producing photographic caricature pictures.....	4010
Shaver, William, sewing machine.....	4027
Snowball, Francis, and J. C. Nichol, artificial marble and stone.....	4033
Stilson, Lyman B., safety car shoe.....	4018
Sullivan, Daniel, steam boiler.....	4054
Thornhill, George D., (assignee), car-coupling.....	4029
Tomlinson, James, barrel.....	4023

Tozer, Edmund C., freezing and refrigerating apparatus.....	4025
Upson, James W., apparatus for screening and loading coal.....	4044
Watson, John E., water gauge.....	4063
Wilmarth, Seth, water motor.....	4042
Wolle, Clarence A., and A. Goth, machine for coating paper with oil colours.....	4011
Woods, George, process for drying lumber.....	4016

INDEX OF INVENTIONS.

Barrel, J. Tomlinson.....	4023
Boot and shoe eyelets, L. A. Dessaulles and W. Murphy.....	4026
Car-coupler, L. D. Adams.....	4009
Car-coupling, G. D. Thornhill.....	4029
" " automatic, N. H. Dolson.....	4007
Car-shoe, safety, L. B. Stilson.....	4018
Churn dasher, D. Moore.....	4004
Coal, apparatus for screening and loading, J. W. Upson.....	4044
Cramping, machine for, A. Hadden.....	4064
Drum, hot air, J. Bowman.....	4058
Fowls, apparatus for fattening, A. de Garis.....	4056
Freezing and refrigerating apparatus, E. C. Tozer.....	4025
Furnace, tubular hot air, M. A. Cushing.....	4047
Gas, illuminating, process for the manufacture of, J. Absterdam.....	4085
Harvester, binding attachment for, J. M. Groover.....	4059
Hinge, surety, D. W. Loug.....	4041
Ladder, step, J. O. Brown.....	4002
Ladies' garments, O. P. Flynt.....	4008
Leather scouring machine, J. Head.....	4005
Lime kiln, M. Callen.....	4040
Lock, metallic hoop, W. Beck.....	4050
Logs, machine for moving, A. Rodgers.....	4043
Lumber, process for drying, G. Woods.....	4016
Marble and stone artificial, F. Snowball and J. C. Nichol.....	4033
Middlings purifier, J. Gregory.....	4031
Oil colours, machine for coating paper with, A. Goth and C. A. Wolle.....	4011
Paint, white enamel, J. B. Orr.....	4038
Paper-fyle, H. B. Casgrain.....	4053
Photographic caricature pictures, process for producing, H. Servis.....	4010
Plough mould board and other castings, process for chilling, carbonizing and toughening, J. S. Robinson.....	4032
Potato-bugs, machine for catching, J. Ney, Jr., and E., & A. Ely.....	4021
Printing machine, polychromatic, C. Rommel.....	4020
Pulley block, eccentric, J. Bird.....	4036
Rack and safe, A. D. Cable and C. D. Howard.....	4018
Railway axle box, C. A. Hussey.....	4015
Railway car wheel, elastic, E. B. Meatyard.....	4057
Rheumatism, medicated belt for, A. F. Cooper.....	4006
Rocking chair, F. Barber.....	4049
Screw, J. Authors and W. F. Munro.....	4012
Sewing machine, W. Shaver.....	4027
Sheet pattern cutting block, K. McKenzie.....	4019
Shingle machine, M. Chase, Jr., and C. S. Muir.....	4039
Ships' wrench, T. L., I., C. B., and J. M. Hubbard.....	4046
Shoe, gum, D. P., Dieterich.....	4048
Spark arrester, J. Bradley.....	4080
" " J. E. Dustin, A. L., and W. G. Brown, and A. Ordway.....	4052
Spark arrester and consumer, T. E. Roberts.....	4022
Steam boiler, D. Sullivan.....	4054
Steamer and heater, F. A. Hibbard.....	4055
Steam generator, W. Golding.....	4045
Steam generators, injectors for, S. Rue.....	4060
Steam governor, J. Judson and W. A. Cogswell.....	4037
Steel, tempering furnace, J. B. Armstrong.....	4034
Stove, revolving oven cooking, K. McKenzie.....	4017
Telegraph printing instrument, G. L. Anders.....	4024
Tire tightener, W. Beck.....	4051
Trowsers' stretcher, F. S. Barnjum.....	4014
Waggon, dump, A. D. McKenzie and O. G. Hughes.....	4028
Water gauge, J. E. Watson.....	4063
Water motor, S. Wilmarth.....	4042
Wheel, wind, M. J. Althouse.....	4008
Wrench, adjustable, E. S. Scripture.....	4062

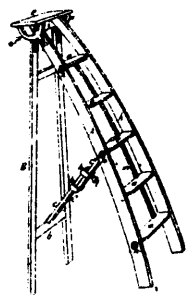
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ILLUSTRATIONS.

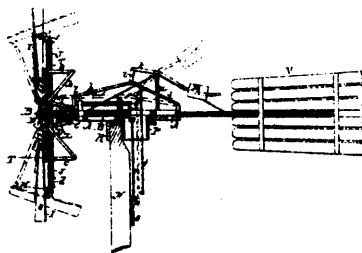
Vol. II.

NOVEMBER, 1874.

No. 8.



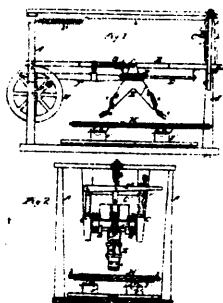
4002 Sweet's Step Ladder.



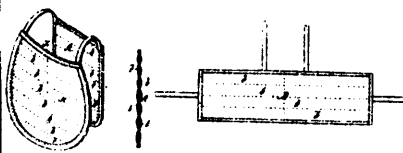
4003 Raymond's Wind Wheel.



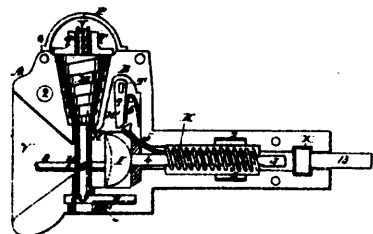
4004 Moore's Churn Dasher.



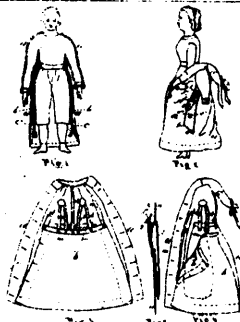
4005 Head's Leather Scouring Machine.



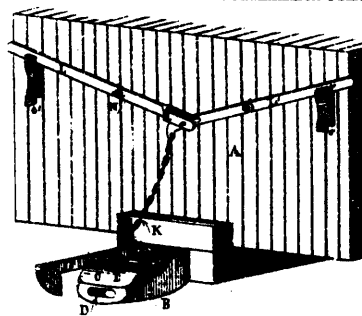
4006 Medicated Belt for Rheumatism.



4007 Dolsen's Automatic Car-coupling.



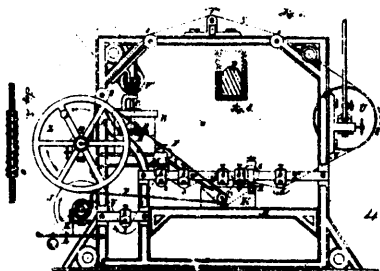
4008 Fiyat's Improvements on Ladies' Garments.



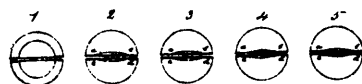
4009 Adams' Car-coupler.



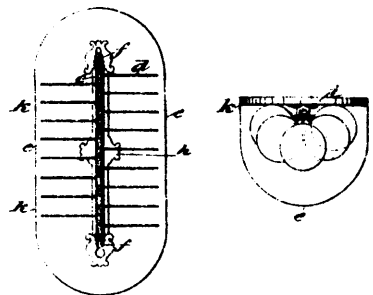
4010 Coolidge's Process for Producing Caricature Photographic Pictures.



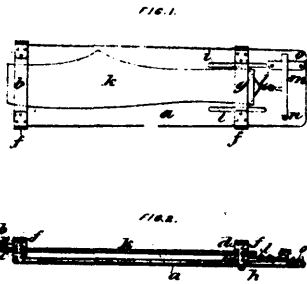
4011 Goth & Wollie's Machine for coating Paper with Oil Colours.



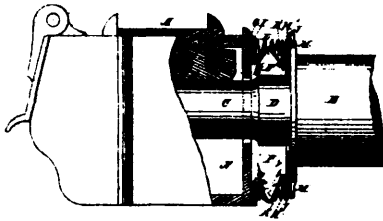
4012 Authors & Munro's Screw.



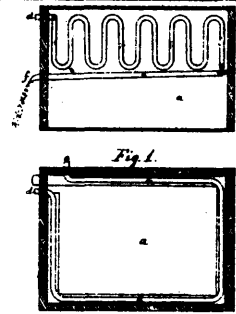
4013 Cable & Howard's Rack and Safe.



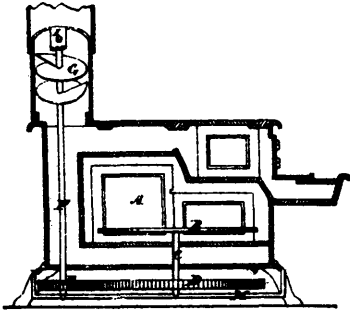
4014 Barnjum's Trowsers Stretcher.



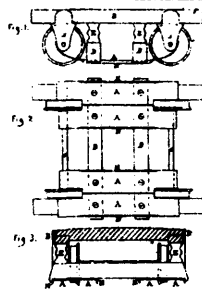
4015 Hussey's Railway Axle Box.



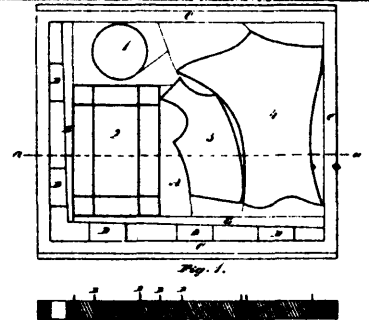
4016 Woods' Process for Drying Lumber.



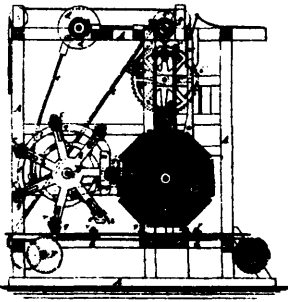
4017 McKenzie's Revolving Oven Cooking Stove.



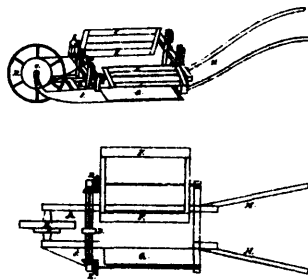
4018 Stilson's Safety Car-shoe.



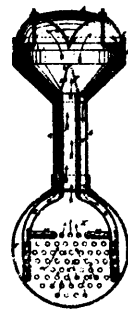
4019 McKenzie's Sheet Pattern Cutting Block.



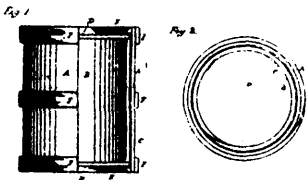
4020 Rommell's Polychromatic Printing Machine.



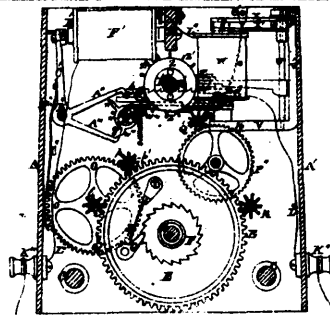
4021 Ney & Ely's Machine for the Catching of Potato-bugs.



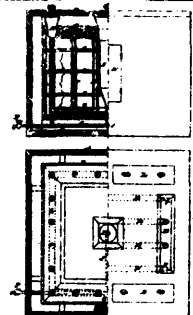
4022 Robert's Spick Arrester and Consumer.



4023 Tomlinson's Barrel.



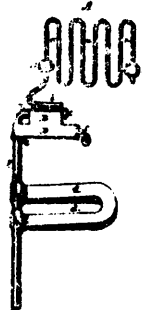
4024 Anders' Printing Telegraph Instrument.



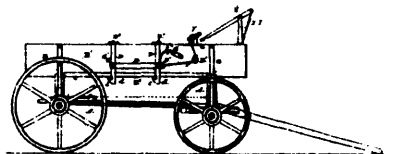
4025 Tozer's Freezing apparatus.



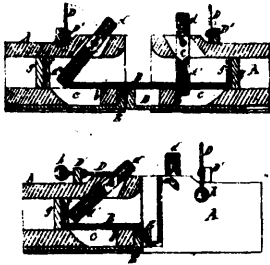
4026 Dessauties & Murphy's Improved Eyelets.



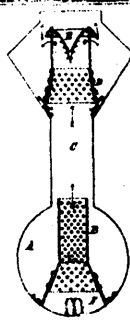
4027 Shaver's Improvements on Sewing Machine.



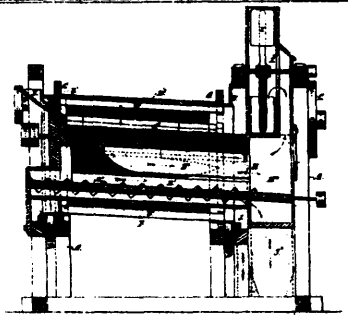
4028 McKenzie & Hughes' Dump Waggon.



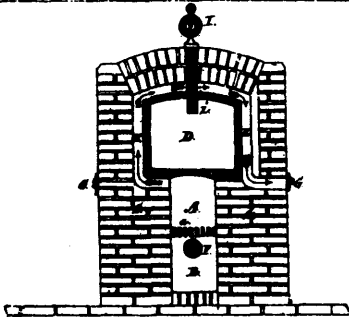
4029 Coulter's Car-coupling.



4030 Bardsley's Spark-arrester.



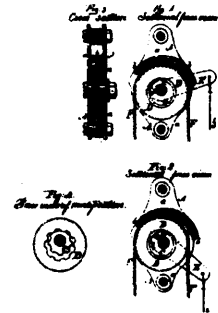
4031 Gregory's Middlings Purifier.



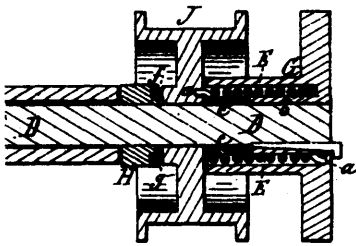
4034 Armstrong's Steel Tempering Furnace.



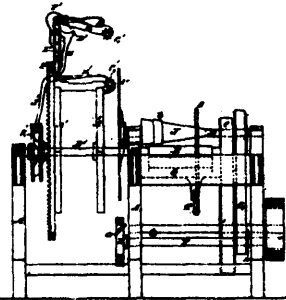
4035 Absterdam's Process for the Manufacture of Illuminating Gas.



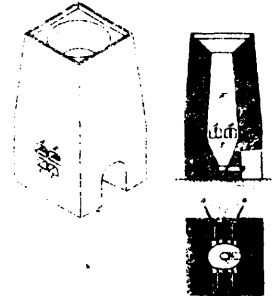
4036 Bird's Eccentric Pulley-block.



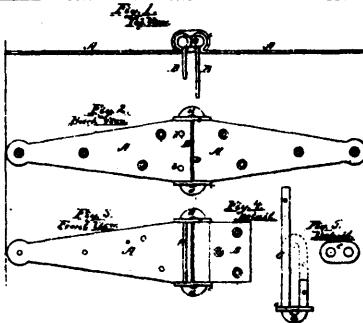
4037 Judson & Cogswell's Steam Governor.



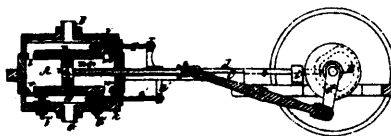
4039 Chase & Muir's Shingle Machine.



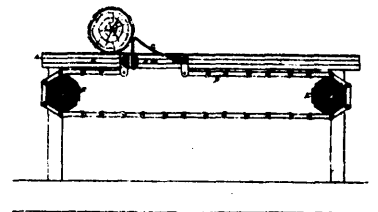
4040 Callan's Lime Kiln.



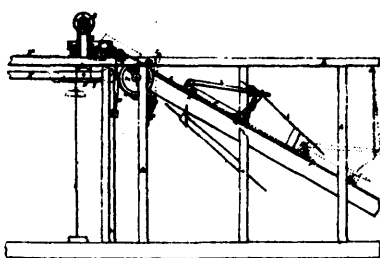
4041 Long's Surety Hinge.



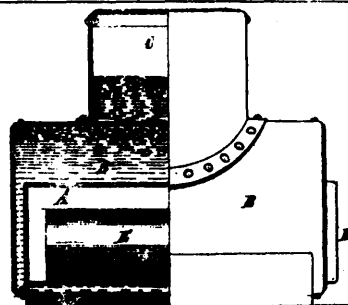
4042 Wilnarth's Water Motor.



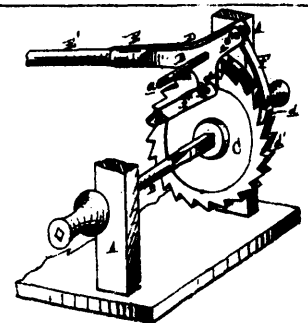
4043 Rodgers' Machine for Moving Logs.



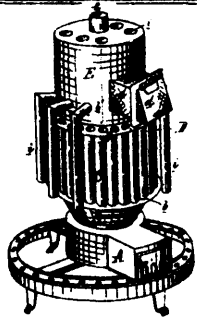
4044 Upson's Apparatus for Screening and Loading Coal.



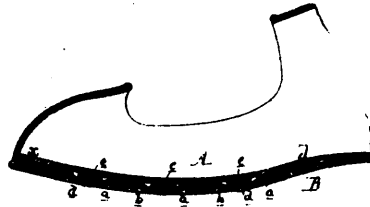
4045 Golding's Steam Generator.



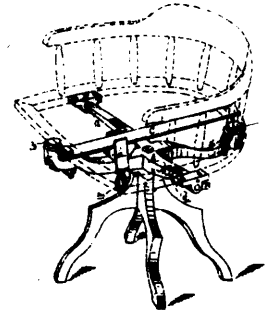
4046 Hubbard's Ship's Winch.



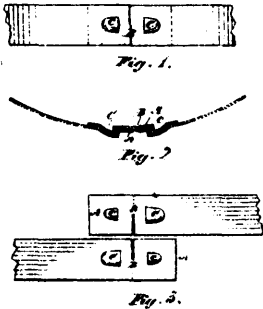
4047 Cushing's Tubular Hot Air Furnace.



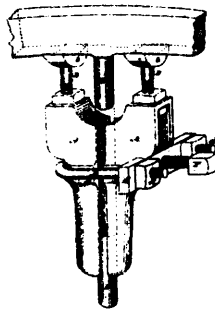
4048 Dieterich's Improvements on Gum Shoes.



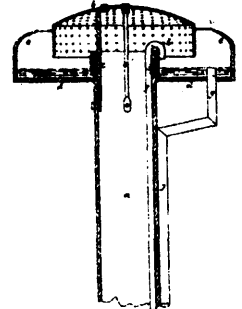
4049 Barber's Improvements on Rocking Chairs.



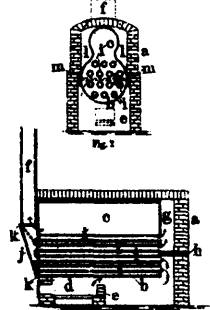
4050 Beck's Metallic Hoop-lock.



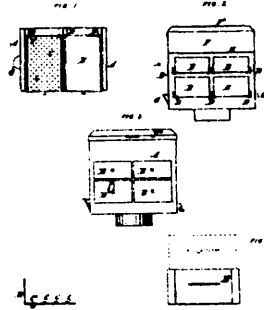
4051 Beck's Tire Tightener.



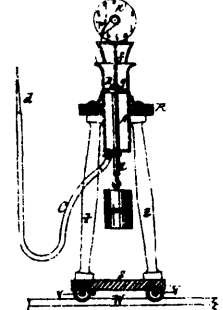
4052 Dustin, Brown & Ordway's Spark Arrester.



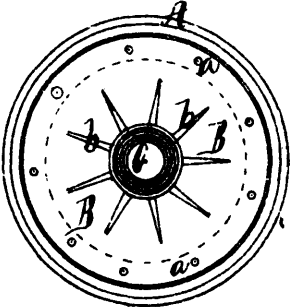
4054 Sullivan's Steam boiler.



4055 Hibbard's Steamer and Heater.



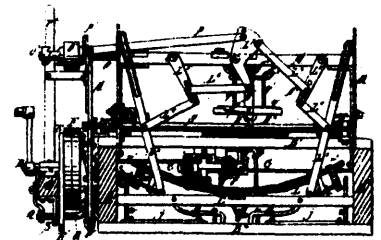
4056 Garis' Apparatus for Fattening Fowls.



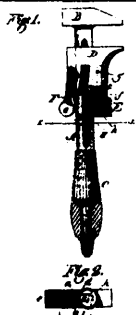
4057 Meatyard's Elastic Railway Car Wheel.



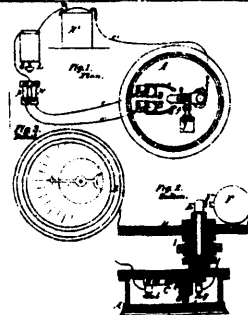
4058 Bowman's Hot Air Drum.



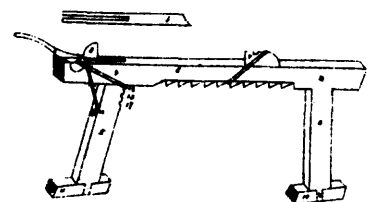
4059 Groover's Binding Attachment to Harvesters.



4082 Scripture's Adjustable Wrench.



4063 Watson's Water Gauge.



4064 Hadden's Machine for Cramping.