

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/
Couverture de couleur

Covers damaged/
Couverture endommagée

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Cover title missing/
Le titre de couverture manque

Coloured maps/
Cartes géographiques en couleur

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Bound with other material/
Relié avec d'autres documents

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Coloured pages/
Pages de couleur

Pages damaged/
Pages endommagées

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Pages detached/
Pages détachées

Showthrough/
Transparence

Quality of print varies/
Qualité inégale de l'impression

Continuous pagination/
Pagination continue

Includes index(es)/
Comprend un (des) index

Title on header taken from: /
Le titre de l'en-tête provient:

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

Additional comments: /
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below /
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
								✓			

The Canadian Patent Office

RECORDS




Vol. III.—No. 4.

APRIL, 1875.

Price in Canada \$2.00 per An
United States - \$2.50

CONTENTS.

INVENTIONS PATENTED,	33
INDEX OF INVENTIONS,	XLV
INDEX OF PATENTERS,	XLV
ILLUSTRATIONS,	45

INVENTIONS PATENTED.

No. 4314. CYRUS E. MOYER, Berlin, Ont., 26th January, 1875, for 5 years: "Felt Shoe Last." (Forme de soulier de feutre.)

Claim.—The peculiar form of lock of the pieces B, C, made by the O, G, curvatures, coinciding as shown.

No. 4315. JOSEPH K. FEICK, Berlin, Ont., 25th January, 1875, (Extension of Patent No. 2234) for 5 years: "Last for Felt Shoes." (Forme pour les souliers de feutre.)

Claim.—The combination of the parts A, B, and C, of a last in the manner specified, also in the catch D

No. 4316. JOSEPH K. FEICK, Berlin, Ont., 26th January, 1875, (Extension of Patent No. 2234) for 5 years: "Last for Felt Shoes." (Forme pour les souliers de feutre.)

No. 4317. HENRY SAFFE, New York, U. S., 26th January, 1875, for 5 years: "Improvements on Faucets." (Perfectionnements aux robinets.)

Claim.—1st. The faucet cylinder *d* with the seat *a* between the inlet pipe *b* and pipe *c*, and made with the double inclines *o o*, within the cylinder and adjacent to the valve seat, in combination with the valve *v*, and the fingers *r* that project at the sides of the valve, the stem *f*, caps *e*, and spring *k*, the parts being arranged and operating as set forth; 2nd. The cylindrical wedge shaped tool *s*, with the file surface adapted to smooth the inclines in the barrel of the faucet, as set forth.

No. 4318. WILLIAM CRICH, Tuckersmith, Ont., 26th January, 1875, for 5 years: "Spring Bed." (Lit à ressort.)

Claim.—1st. The double cone-shaped spiral springs *a, a*, connected with a cross straight piece *f*, constructed as specified; 2nd. The combination of these springs with the slats *c, b*, and the cross bar *d*, arranged as described.

No. 4319. LOUIS DION and ARTHUR DION, St. Thomas, Que., 26th January, 1875, for 5 years: "Rail way Waggon Coupler." (Attelage de wago. de railroute.)

Résumé.—1o. L'arrangement et la combinaison des chevilles B, et des têtes C des mailles D, et de l'essieu E, des mailles du support L, de la coulisse S, de la poignée I, de l'essieu qui se trouve en dehors du wagon; 2o. La combinaison et l'arrangement de l'essieu E, et du bras J, servant de levier de la chaîne H, attachée au levier, et de la poignée I; 3o. La combinaison et l'arrangement de l'œil G, pris sur la maillon D, tel que décrit.

Claim.—1st. The combination and arrangement of the pins B, and the heads C, the links D, the axle E, the supporting links L, the slide S, the handle I of the axle placed outside of the wagon; 2d. The combination and arrangement of the axle E, and of the arm J, acting as lever for the chain H, attached to the lever and of the handle I; 3rd. The combination and arrangement of the eye G, attached to the link D, as described

No. 4320. JAMES F. WEBSTER, Hamilton, Ont., 26th January, 1875, for 5 years: "Leaf-Supporter for Sewing Machines." (Support de pliant de machine à coudre.)

Claim.—The jointed supporter E, arranged and constructed as shown, fastened to the leg B by pin or screw F, or to the drawers as shown in Figs. 2, and to the under side of the leaf C, as specified.

No. 4321. RICHARD SYLVESTER, Enniskillen, Ont., 26th January, 1875, for 5 years: "Spring Hoe." (Houe à ressort.)

Claim.—The hoe B, with upper arm *b*, in combination with the drag bar A, spring E, pivoted lever D, and links C, arranged as specified.

No. 4322. EDWARD C. SCARLETT, Adolphustown, Ont., 26th January, 1875, for 5 years: "Car Coupling." (Attelage de wagons.)

Claim.—1st. The combination of the coupling pin A, with the hooks C, C, the coupling box with the jaws D, D, as set forth; 2nd. The combination with the hooks C, C, the jaws D, D, the slide E, and the lever F as set forth; the coupling box B, may be made wider to suit the cars when there is much difference in the height of them.

No. 4323 SYLVESTER J. WRIGHT, Madrid, and ALBERT H. WOOD, Ogdensburgh, N. Y., U. S., 26th January, 1875, for 5 years: "Improvements on Watchmen's Patrol Registers." (Perfectionnements aux horloges de quart.)

Claim.—1st. The revolving dial plate D, having a scale or graduated time divisions on the back corresponding with the time divisions on the face, and receiving marks thereon communicated by marking points or pencils I, operated by bell pull mechanism from one or more stations B, in combination with clock mechanism for rotating the dial as set forth; 2nd. The markers I, operated by bell-pull mechanism from one or more stations B, in combination with the revolving clock dial D, as set forth; 3rd. The bell-pull mechanism, constructed as shown, in combination with markers I, and a revolving clock dial D, all operating as set forth

No. 4324. RICHARD H. ATWELL, Baltimore, Md., U. S., 29th January, 1875, for 5 years: "Motor for Steam or Water." (Moteur à vapeur ou hydraulique.)

Claim.—1st. The arrangement and combination of a piston chamber, with a vibrating piston and shaft, a valve gear, and the necessary connections between them; also a lever or other attachment to the piston shaft deliver power and motion to construct a motor, which may use any suitable fluid under pressure; 2nd. Operating a valve under balanced pressure by device within the piston chamber and steam space, and without any external connection or stuffing box; 3rd. The angular levers *b, b*, figure 1, and the propeller rods C, C, or their equivalent to communicate motion from the piston to the valve by the valve yoke *d, d*, figs. 1 and 3; 4th. Re

gulating the movement of the angular levers *b, b*, by the screws *K, K* (fig 7) or their equivalent in order compensate differences in the length of the lever on the piston shaft, and the length of throw of the crank of the fly-wheel. 5th. A yoke *d, d*, figs. 1 and 3, on a valve by which to impart motion; 6th. The arrangement of parts into and from the piston chamber through the valve in such manner as that when the fly-wheel is on either of its centres at the instant of cut-off in reversing, the eduction (or exhaust) parts in the valve, on either side of the piston, will be partially open; 7th. A cylindrical or conical oscillating valve with chambers to receive respectively the induction and eduction currents and present them to the proper parts for the purposes of the motor; 8th. The diaphragm through the valve separating the induction fluid from the eduction fluid.

No. 4325. GUSTAVUS A. GASPER, Boston, Mass., U. S., 28th January, 1875, for 15 years: "Method for Promoting the Combustion of Fuel in Furnaces." (Méthode pour accélérer la combustion dans les fourneaux.)

Claim.—1st. The method of promoting the combustion of fuel in furnaces by combining water in a mechanically divided state, with a blast or blast of air, as described; 2nd. The combination with a furnace of the blast pipe *l*, water pipe *p*, and distributing disc or discs, as described.

No. 4326. JACOB CONRAD and JERRY H. FAHRINGER, Montoursville, Pa., U. S., 28th January, 1875, for 5 years: "Apparatus for Elevating Building Material." (Appareil à élever les matériaux de construction.)

Claim.—1st. The extension-ladder *A*, having the ends of its section tapered and provided with a joint *B*, which can be adjusted vertically to adapt it to buildings of varying heights; 2nd. The extension-ladder having the ends of its sections tapered and provided with a joint *B*, adjustable vertically in combination with the car *c*, windlass *D*, cord *E*, pulley *F*, and revolving rings *G, B*, as described.

No. 4327. HENRY FOLLIOTT, Temperanceville, and JONATHAN Y. N. FOLLIOTT, Balsover, Ont., 28th January, 1875, (Extension of Patent No. 2781) for 5 years: "Field Roller." (Rouleau d'agriculture.)

Claim.—1st. Placing friction rollers upon the frame in such a position that they rest upon the periphery of the main rollers, and carry the weight of the frame as described; 2nd. Making the journals which carry the centres of the main rollers oblong so that the rollers may work vertically and adapt themselves to the nature of the ground they have to pass over, and 3rd. Making the centres of the main rollers working in the journals act merely as guides for the rollers without carrying any weight.

No. 4328. JOSEPH LEWIS, Manchester, Eng., 29th January, 1875, for 5 years: "Improvements on Water Meters, applicable to Motors." (Perfectionnements aux hydromètres, applicables aux moteurs.)

Claim.—1st. The rotating valve *R*, in the chamber *B*, and the cylinders *A, A*, arranged as described; 2nd. The piece *G* constructed to afford bearings for the crank shaft *H*, screw-wheel *I*, division wall *F*, and grooves *f*; 3rd. The combination of the two hemispherical discs *J*, to be used in connection with an elastic diaphragm piston; 4th. The connecting piece *K*, with anti-friction rollers and *L*, 5th. The combination of the piston block *M*, with wooden casing *N*, corrugations *P*, grooves *Q*, and bands or rings *O*, in connection with the rubber ring packing; 6th. Wood lining *x*; 7th. The general arrangement of cylinders *A, A*, valve chamber *B*, valve *R*, crank shaft *H*, wheels *I* and *T*, piece *G*, enlarged cylinder *a*, stuffing box *d*, shaft *b*, connecting piece *k*, top-plate *e*, bottom plate *D*, as described.

No. 1329. WILLIAM T. DOREMUS, New York, U. S., 29th January, 1875, for 15 years: "Oscillating Spring Chair." (Chaise à bascule à ressort.)

Claim.—1st. The chair base formed of the feet *A*, the angular blocks *B*, the centering circle *b*, and the veneers *b*, as described; 2nd. The combination of the plate *C*, the flange nut *D*, and the tubular projection *f*, with the base *B*, the pivot or screw *E*, and the cross-bar *F*, as described; 3rd. The combination of the flanged seat *G*, the rubber blocks *H*, the flanged arm *I*, the rock bar *J*, and the hooks *K*, or equivalent with each other, and with the base *B*, as described; 4th. The cross-head *L*, the flanged yokes *M*, the bolts *N*, and the rubber blocks *O*, in combination with the cross bar *F*, and the rock bar *J*, to take up the slack caused by the compression of the rubber blocks *H*, as described; 5th. The arrangement of the rock bar *J*, in front of the cross bar *F*, and the pivot or screw *E*, to bring the centre of oscillating motion in front of the centre of rotary motion, as described.

No. 4330. ISRAEL KINNEY, London, Ont., 29th January, 1875, for 5 years. "Lock and Key Guard." (Pertuis de serrure.)

Claim.—The guard *A*, constructed with bows *A*, ends *B*, and teeth *C*, as set forth.

No. 4331. GUILLAUME BOIVIN, Montreal, Que., 29th January, 1875, for 5 years: "Boot and Shoe Stiffener." (Contrefort de chaussures.)

Claim.—1st. Cutting stiffeners for boots and shoes with ears or projections *A* and *B*, for the purpose set forth; 2nd. Cutting the upper part of the central portion of the stiffeners with the recess or deflection *E*, shaped as described; 3rd. Cutting the end *C*, and *D* of the stiffeners in curved or straight lines so that each will correspond with the next as described; 4th. Cutting the lower part of the central portion so as to leave one or more points *F*, shaped as described; 5th. The combination of the different parts *a, b, c, d, e, f*, as described.

No. 4332. LEWIS KIMBALL, Jr, Bolton, Vt., U. S., 29th January, 1875, for 15 years: "Meat Chopping Tray." (Plateau pour hacher la viande.)

Claim.—1st. A wooden tray with circular sides and ends, with the handles *h, h*, as described; 2nd. A wooden tray formed by the special process described.

No. 4333. LE ROY SATTERLEE, Rochester, N. Y., U. S., 30th January, 1875, for 5 years: "Heating apparatus." (Appareil de chauffage.)

Claim.—1st. The combination with the fire chamber *C*, and heating flues *1, 2, 3, 4, 5, 6, 7*, of the exit pipe *H*, resting directly within the fire chamber, or in an auxiliary heating chamber, the said parts being connected by the tubes *t, t*, as specified; 2nd. The combination with the exit pipe *H*, of the heating cone *m*, so arranged that the draught shall impinge upon the same in entering the exit pipe as described; 3rd. The combination with the heating flues *1, 2, 3*, &c., of the air pipes *I, I*, passing centrally through the flues, and otherwise arranged to operate in the manner specified; 4th. The combination with the ash-pit *G* and chute *J*, of the dust tube *E*, operating in the manner specified; 5th. The combination with the flues *1, 2, 3*, &c., of the caps or dampers *n, n*, as specified.

No. 4334. CEVEDRA B. SHELDON, New-York, U. S., 30th January, 1875, for 5 years: "Improvements on Furniture Casters." (Perfectionnements aux roulettes de meubles.)

Claim.—1st. In combination with any caster, the wheel composed of the casting *A*, cup *B*, and plate *C*, all arranged as described; 2nd. In combination with any caster, the wheel composed of cup *B*, and plate *C*, with bush *C*; 3rd. In combination with any caster, the horn having the bearing for the spindle formed by drawing down the metal in making the aperture; 4th. In combination with any caster, the horn having the bearing for the spindle formed by the insertion of an eyelet *E*, in the aperture punched in the plate; 5th. In combination with any furniture caster, an "English" horn having the eye or pin hole *F*, formed by rolling the metal as set forth; 6th. In combination with a caster, the socket and plate formed of one piece of metal by stamping as set forth; 7th. In combination with a caster the roller socket *I*, upset or otherwise secured to the plate *K*, as described; 8th. The arrangement in combination with any caster of three or more rollers *L*, revolving circumferentially between the plate *K*, and the plate of the horn, 9th. The loose washer *M*, interposed between the plate *K*, and the plate of the horn to carry the rollers *L*, and keep them the proper distance apart, as described.

No. 4335. HOWARD P. GARLAND and ANDREW J. GORE, San Francisco, Cal., U. S., 30th January, 1875, for 5 years: "Sewing Machine for Bags, &c." (Machine à coudre les sacs, etc.)

Claim.—1st. A spiral needle for stitching, or over sewing having a groove or retaining guide of sufficient depth around the circumference of its spirals for receiving the thread; 2nd. A spiral needle moving independently in a slotted case upon a feathered stern *b*, attached to the end of the needle, when the case is caused to revolve, and the coils of the needle to engage the diagonal rods *a, a*, in the manner specified; 3rd. The combination of a spiral needle having a groove around its periphery or spirals and operating in a case *B*, with the rods *a, a*, in the manner specified; 4th. The spiral needle having a retaining eye *c*, and a set *d*; 5th. The retaining clamp *E*, movable on the bar *H*, and posts *a*, in the slots *g, g*, operated by the hand screw *G*, in the cross-head *g*; 6th. The bent guide rod *r*, and oblong slots *t*, of the clamp *F*; 7th. The flat smoothing and guiding clamp *K*, movable in the rod *b*, as specified; 8th. In combination with the diagonal rods *a, a*, the U shaped groove *B*, in the frame *A*, in which the needle is caused to travel in its progress through the cloth, in the manner specified; 9th. Forming an over stitch as shown at fig. 4, by means of a spiral needle in the manner described.

No. 4336. FREDERICK BRANDFOOT, Toronto, Ont., 30th January, 1875, for 5 years: "Drum-Heater." (Poêle Sourd.)

Claim.—1st. A drum-heater constructed of an outer drum A, and an inner drum B, to contain water held suspendedly by radial tubes C, for the diffusion of heated air; 2nd. A drum heater constructed of an outer drum A, and an inner drum B, to contain water held suspendedly by tubular openings E, in the circular ends of the drum; 3rd. A drum-heater constructed of an outer drum A, and an inner annular V shaped drum B, having corresponding openings E at the ends, as set forth.

No. 4337. GEORGE B. TINKER, Beebe-Plain, Que., (Assignee of E. N. Bacon) 1st February, 1875, for 5 years: "Ox Bow Fastener and Guard." (Ajustage et garde de joug à bœuf.)

Claim.—1st. The bow fastener consisting of the box D, notched pawl G, pawl H, and spring d, combined to operate as set forth; 2nd. The box D, extended as shown at E, and guards F, as set forth.

No. 4338. DAVID C. MORENCI, Lévis, Que., 1st February, 1875, for 5 years: "Machine soufflante." (Blowing Engine.)

Résumé.—L'emploi des pistons-cloches concentriques avec l'axe du balancier qui les porte, de sorte que le frottement est réduit à celui d'une feuille de fer blanc, rencontrant l'eau par sa tranche, ce qui est presque nul, et l'emploi de ces boîtes intérieures D, D, qui empêchent le déplacement du liquide, et qu'il n'y a à peu près qu'un quart de pouce de différence entre la boîte D et le piston C, qui la recouvre.

Claim.—The employment of bell shaped pistons concentric with the axis of the beam which bears them, so that the friction is reduced to that of a sheet of tin, catching the water by its edge, which is reduced to the smallest dimensions, and to use of the internal boxes D, D, which prevent the displacement of the liquid, leaving scarcely a quarter of an inch of difference between the box D and the piston C which covers it.

No. 4339. GEORGE MCEWAN and CHARLES O. GIBSON, Rock-Island, Que., (Assignees of G. Batchelder) 1st. February, 1875, for 5 years: "Milk Pan." (Boîte à lait.)

Claim.—1st. The tubular frame B, in combination with the pan A, applied as set forth; 2nd. The cup F, employed as set forth in combination with the tubular frame B, having bent outlet as described; 3rd. The process of cooling milk from the interior of the pan A, by submerged tubes as set forth.

No. 4340. CHRISTOPHE SCHAAL, Brooklyn, and CONRAD BANER, New-York, N. Y., U. S., 1st February, 1875, for 5 years: "Ice Breaking Boat." (Bateau brise-glace.)

Claim.—1st. An ice breaking boat constructed with rotary blades D, D, in front of its bow, for cutting the ice into strips; 2nd. In combination with the rotating cutting blades D, D, the vertically reciprocating crushers E, E, or arranged on the boat, for breaking the ice in the manner described; 3rd. The paddle wheel I of the ice breaking boat, made with the clam projections o on its radial arms n; 4th. The ice breaking boat A, made with a compartment L for letting in the water and increasing the weight of the vessel, said compartment being combined with the valve r, and suction pump m, as described.

No. 4341. THOMAS C. WILLIAMS, Richmond, Va., U. S., 2nd February, 1875, for 5 years: "Process of preparing Plug Chewing Tobacco." (Procédé de préparation du tabac en tablettes pour chiquer.)

Claim.—1st. The described process of preparing plug tobacco by first laying the leaves in moulds then pressing them under strong pressure into sheets or blocks, equal in thickness to the desired width of the plugs, and then cutting the plugs therefrom flatwise across the leaves as specified.

No. 4342. CEVEDRA B. SHELDON, New-York, U. S., 2nd February, 1875, for 5 years: "Butter Package." (Empaquetage du beurre.)

Claim.—1st. The combination of the wooden top E and bottom C, with downward tapering metallic sides and metallic bottom B; 2nd. In combination with any metallic package, with tapering sides, the wire F arranged and acting as described; 3rd. In combination with any metallic package with tapering sides, the wire F, with hoop G; 4th. The bottom B, rolled to form seat to receive the tapering sides and giving hoop B', round same as described; 5th. In combination with any metallic package, the hoop H, with flange H'; 6th. The combination of the ear I, secured to side of package and provided with stop K, with clip L, secured to lid E as

described; 7th. The combination in any metallic package of the wooden cover E, provided with slot P, and the clips O, secured to metallic sides A as described; 8th. The combination in any metallic package of the hinged bar Q, secured to the sides and slotted to receive the eye R, secured to lid E, and bar S, secured to sides and slotted to receive tongue of bar T, as described.

No. 4343. THOMAS C. WILLIAMS, Richmond, Va., 2nd February, 1875, for 5 years: "Improvements on Plug Tobacco." (Perfectionnements au tabac en tablettes.)

Claim.—Blocks or plugs of tobacco, severed flat wise across the leaves from previously pressed sheets or blocks of sufficient thickness to produce the requisite width of plugs as specified.

No. 4344. ELLEN E. FITZ, St. John, N. B., 2nd February, 1875, for 5 years: "Method of Mounting and operating Globes." (Mode de montage et de fonctionnement des globes.)

Claim.—1st. The manner in which the earth's surface upon any date of the year is described by the seasons of day twilight and night together with the sun's course with respect to the horizon of any given terrestrial point, the whole being as stated; 2nd. The arched standards H, I, in combination with the inclined globe G, and disc D; 3rd. Mounting the standards H, I, upon a frame or support independent of the base A, and sliding thereupon to and fro with respect to the globe; 4th. The pointers c and e in combination with the globe G, and graduated disc D, or the globe and the horizon ring K, and band L; 5th. The graduated disc D, pointers c, and e, and globe G; 6th. The combination of the globe G and disc D, when the latter rotates centrally upon an axis and supports the globe and has a scale of division engrossed upon its upper surface to represent the signs of the ecliptic; 7th. The disc D, rotating centrally upon an axis supporting the globe G, and provided with the graduated scale representing the signs of the ecliptic; 8th. The horizon ring K, in combination with the globe G; 9th. The horizon ring K and band L, united and scored as explained; 10th. The general combination of the elements of the described apparatus or instrument consisting of the base A, standards H, I, disc D, globe G, pointers c and e and ring K, the whole being as stated.

No. 4345. WILLIAM J. DOREMUS, New-York, U. S., 2nd February, 1875, for 15 years: "Oscillating Spring Chair." (Chaise à bascule sur ressorts.)

Claim.—1st. The combination of the feet A, the flanged and notched lower plate B, the flanged top plate C, and the bolts D, with each other as described; 2nd. The pivot E, formed solid upon the top plate C, of the base A, B, C, D, and which receives the bar or plate F, that supports the chair frame as described; 3rd. The combination of the bolts J, and the rubber blocks K and M, with the bars H of the chair frame I, and with the bar or plate F, pivoted to the base A, B, C, D, and whether one or two sets of the said bolts and blocks J, K, M, be used at each end of the said bar or plate F, as described; 4th. The combination of one or more rollers O, torsion rods P and keys Q, or equivalent fastener with the chair frame I, and with the seat leather or cloth N, as described; 5th. The combination of one or more rollers S, coiled springs T, and rods U, with the chair frame I, and with the back leather or cloth R, as described.

No. 4346. EBENEZER F. LANE, Swanzery, N. H., U. S., 2nd February, 1875, for 5 years: "Improvements on Game Apparatus." (Perfectionnements aux appareils de jeux.)

Claim.—The game described, consisting of the set pins D, the whip-staff B, grooved wheel A, and lash C, provided with the loop z to be played or used as specified.

No. 4347. WALTER S. SHIPE, Minerva, Ohio, U. S., 2nd February, 1875, for 15 years: "Plane Guide." (Guide-rabot.)

Claim.—1st. A plane guide consisting of a yoke with a clamping screw at one end and recessed guide extension at the opposite end, in connection with a pivoted arc-shaped connecting piece clamped to yoke extension and carrying the guide strip of plane, as specified; 2nd. The yoke B, having a recessed projecting end or extension with clamping screw for forming the seat of the graduated arc part of the connecting piece, and securing guide strip at any angle on plate, as set forth.

No. 4348. WILLIAM H. FARRIS, Cairo, Ill., U. S., 2nd February, 1875, for 5 years: "Water Circulating and Steam Generating Grate." (Grille pour la circulation de l'eau et la production de la vapeur.)

Claim.—1st. Hollow side grate bars for fire boxes constructed separately or together at different altitudes, and arranged in relation to the hollow bed-grate bars so as to form with the latter a

basket or chamber within the fire box, said side bars and the bed bars being in communication with one another and with the boiler at relatively low and high points, and the bed bars constructed to form a hollow bridge wall, all substantially as described; 2nd The waste circulating fire front lining for a fire box constructed as described; 3rd. The hollow rear end arch bars, as described; 4th The combination of the expandible thimbles, copper rings, screw rods and nuts, with either the grate bars, the fire front lining or the rear end arch bars, for uniting the parts and forming and packing the joints between the bars of the grate, the arch bars and the parts of the fire front lining as described; 5th The combination of the hollow grate bars, a loosely jointed supply pipe leading from the boiler, the lowest tubular passage of the bars, a circulation pipe (also loosely jointed) leading from the highest tubular passage of the bars into the boiler and a stop, a check and waste valve, as described; 6th The combination of the tubular fire front lining, loosely jointed pipe leading from the water space of the boiler to the lowest tubular passage of said fire front lining, the loosely jointed pipe leading from the highest tubular part of the lining into the boiler through a pipe at or near the water line, check valve, waste valve and stop valve, as described; 7th. The combination of the tubular rear arch bars, loosely jointed pipe leading from the boiler to the lowest tubular passage of the rear arch bars, a loosely jointed pipe leading from the highest tubular passage of the said bars into the boiler at or near the water line, and a check valve, a waste and blow-off valve, and a stop valve, as described; 8th The combination of the hollow grate bars, tubular fire front lining, rear arch bars and the several pipes, check valves, blow-off and waste valves, and stop valve, as described; 9th. The method of wasting water through either one or all of the additional water heating and circulating surfaces, which are added to the boiler in the event of a leak or break occurring in one or all of said surfaces and when the pressure and supply from the boiler is wholly or partly cut off by the valve K, as described.

No. 4349. CHARLES LEVEY & WILLIAM MYLES, Toronto, Ont., 2nd February, 1875, for 5 years: "Method of Locking and Unlocking Nuts." (Manière d'ajuster et de désajuster les écrous.)

Claim.—1st The nut A, toothed or corrugated on its under or outer surfaces or angles, whether the teeth or corrugations are produced before or after its application; 2nd. The washer B, with its tang or tangs c, or notch or notches D, and E, or partially raised, depressed or corrugated surfaces, whether the same are produced before or after its application; 3rd. The depressions or elevations on the surfaces and bolt holes to which the nut A, and washer B, are to be applied whether the same are produced before or after the formation of the bolt hole or the application of the nut washer and bolt; 4th The combination of the nut A, and washer B, and their application to bolts and bolt holes and to partially raised, depressed, corrugated or plane surfaces and bolt holes for the purpose of locking and unlocking nuts, as set forth.

No. 4350. PHILIP WILLIAMS, Toronto, Ont., 2nd February, 1875, for 5 years: "Machine for Cleaning Fruits." (Machine à nettoyer les Fruits.)

Claim.—1st The cylinder A, done around with perforated zinc or galvanized or otherwise and the zinc trough B, to contain the water and the screen G, to conduct the water when thrown from the cylinder; 2nd. The combination of the first claim in combination with the frame C, of wood or iron, the pulley wheels A, and B, the handles and the axle with belt C, and box D, as set forth.

No. 4351. SUSAN M. HIBBARD, Geneva Lake, Wis., U. S., 2nd February, 1875, for 5 years: "Feather Duster." (Plumeau.)

Claim.—1st. A feather duster having the stems of the feather split longitudinally, and apart thereof severed from the remaining part as specified; 2nd. A stiff, or quill feather, made flexible by removing the inner portion of the stem, so that the fibre will remain with the enamel of the back, as specified.

No. 4352. JOHN HAGGERT, Brampton, and DAVID BROWN, Garafraxa, Ont., 2nd February, 1875, for 5 years: "Improvements in the Grain Separator of Threshing Machines." (Perfectionnements au séparateur des grains des machines à battre.)

Claim.—1st. The combination of the bar B, or continuation of the tumbling shaft in connection with the bevel wheel H, and pinion I, for the purpose of giving motion by means of bolting to the beaters shaft, as set forth; 2nd. The attachment and combination of shaft G, with pulleys O, P, to drive the shoe R, as described; 3rd. The agitator or second set of beaters M, driven as described from the shaft K, or otherwise; 4th The combination or extension of the bar B, from tumbling shaft to the end of the separator and the construction in combination therewith of the pulleys X, Y, for driving the straw carriers either behind or to either side at pleasure; 5th. The chaff carrier N, driven in either of the modes described, and its use for the purpose declared; 6th. The double tooth-bar a, a, for strengthening the teeth of the cylinder as shown in Figs. 3 and 4

No. 4353. WILLIAM C. ARNOLD, Montague, Mich., U. S., 3rd February, 1875, for 15 years: "Ironing Table and Clothes Rack." (Table à repasser et séchoir à linge.)

Claim.—1st. In combination with the central ironing table having the fixed and folding clothes racks B, G, K, the racks L, J, constructed as described and provided with folding tables M, and I, the said racks being hinged to the central frame so that they may be compactly folded and unfolded when desired; 2nd. The box table D, having a clothes chest H, in combination with chests E, G, at each end thereof for the convenient reception and storage of sad iron and clothes pins, as described; 3rd. In combination with the rack B, G, the rack L, constructed as described and provided with the table M, and pivoted braces I, whereby the said table may be folded with the rack which carries it to allow the folding of the two racks with each other and the table; 4th. The combination of the main rack B, G, with the supplemental hinged rack K, J, and the thumb spring detents I, for sustaining the supplemental rack in position for use as set forth; 5th. The rack L, hinged to the frame B, in combination with the clothes chest H, and table I, carried by said rack in its folded and unfolded position as set forth; 6th. The bottom N, of the box-table D, having receiving slots a, o, and stops p, in combination with the pins q, of the racks L, J, whereby said racks may be folded beside each other and the main rack and fastened in place by the table stops as described; 7th. The folding supports F, F, for clothes baskets in combination with the clothes chest H, and table I, whereby clothes baskets are held at each end of the table and chest on a level therewith and the supports closed with the table when not in use, as described.

No. 4354. DENNIS F. VAN LIEW, Aurora, Ill., U. S., 3rd February, 1875, for 5 years: "Grain Door for Freight Cars." (Porte de wagons à grain.)

Claim.—1st. The combination of the radius bars D, D', with the door C, of a freight car and with the side of said car as set forth; 2nd. The combination of the door C, and radius bars D, D', with the side of a car and with the shoe E, in the doorway thereof as set forth; 3rd. The combination of the swinging door C, and bars D, D', with a guide segment F, or guide bar F, secured to the side thereof or with both, as set forth; 4th The combination of the fastening hook M, and button m, with the door post of a freight car for securing the door C, when closed as described.

No. 4355. RUFUS D. GUILFORD, St. Charles, Mich., U. S., 3rd February, 1875, for 5 years: "Boots-Calks." (Crampons de chaussures.)

Claim.—The described boot-calk made from a square piece of sheet steel A, having a spur a, at each corner and provided with a central hole adapted to receive a screw b, for securing the same to a boot sole, as set forth.

No. 4356. CHARLES E. ROBINSON, Brooklyn, N. Y., U. S., 3rd February, 1875, for 15 years: "Apparatus for Oil Burning Furnaces." (Appareil pour les fourneaux consommant l'huile.)

Claim.—1st. The method described of heating the oil and afterwards re-heating it by passing it through steam enclosed pipes for the purpose of facilitating the atomizing process by maintaining a high degree of temperature until atomized, as described; 2nd. The described method of feeding the oil to the furnace by forcing through pipes by the direct pressure of steam as described; 3rd. The pipes H, I, and tank B, in combination with the pipe K, and atomizer J, for the purpose specified; 4th. The combination of the reservoir A, provided with pipes D, E, a, valve c, and gauge b, and the supply tank B, heated by the steam coil F, and provided with pipes H, I, with the steam pipe K, and atomizer J, as described; 5th. The combination of the valves E, C, one placed inside the other and both adjustable by means of the hands nuts E, G, in the manner specified; 6th The combination of the two valves C, F, and the valve seat d, in the manner described whereby the jets of liquids and gaseous fluids will form two hollow inverted cones intersecting each other as described; 7th. The burner M, having openings formed of the slit m, or the hole or holes n, as described; 8th. The combination of the valve F, the tubular valve C, and the pipes A, L, and K, as described; 9th The combination of the stuffing box H, having lugs h, with the key I, stem j, and hand nut G, as described.

No. 4357. DANIEL F. PACKER, Mystic-River, Ct., U. S., 3rd February, 1875, for 5 years: "Artificial Fuel." (Aggloméré combustible.)

Claim.—The process of manufacturing artificial fuel, by mixing coal dust with a resinous substance while the latter is in a cool, dry and subserized condition, and then causing a more intimate mixture by subjecting the substances together and while being agitated to the action of heat as described.

No. 4358. JAMES TAYLOR, Toronto, Ont., 3rd February, 1875, for 5 years: "Improvements on Burglar Proof Safes." (Perfectionnements aux coffres-forts à l'épreuve des voleurs.)

Claim—1st The rubber tube *e*, inserted in one or more of the steps of the jamba B, B, as described; 2nd. The eccentric rod *k*, handle *l*, hub *q*, *q*, eccentric pins *m*, *m*, hinges *h*, *h*, and *i*, *i*, as described

No. 4359. WILLARD LAMB, Green Bay, Wis., U. S., 2^d February, 1875, for 5 years: "Improvements on Carriage Movement of Saw Mills, Planers or other Machines." (Perfectionnements au mouvement des charriots de scieries, de raboteur et autres machines.)

Claim—In combination with a reciprocating carriage C, the pulley or drum D, provided with a spiral or screw grooved or plain; and the wire rope *b*, wound around said pulley or drum and having its ends passing around pulleys *d*, *d*, and attached to the carriage as set forth

No. 4360. ALBERT F. GUE, Eastmanville, Mich., and JAMES M. KELLEY, Austin, Ill., U. S., 3rd February, 1875, for 5 years: "Railway Train Brake." (Frein de railroute.)

Claim—1st. A chain spool sleeved upon a locomotive driving axle with a friction disc at each end made of wood or other suitable material, in combination with a collar or collars to form a single or double friction clutch as set forth. 2nd The combination with a locomotive driving-axle of a chain spool sleeved thereon, a friction disc and a friction clutch on each side of the same, the latter being feathered on the said axle, or lever, a rock-shaft, two eccentrics and two bell cranks with friction rollers at their ends, for simultaneously operating said friction clutches, as described; 3rd. The oil receptacle *f*, coved in the spool B, and closed by the plug *g*, as set forth.

No. 4361. HOMER ROGERS and STEPHEN MOORE, Sudbury, Mass., U. S., 8th February, 1875, for 5 years: "Process of Making Counters for Boots and Shoes." (Procédé de fabrication des contre-forts de chaussures.)

Claim—The improved method, as described, consisting in separating the sheet into ellipses or duplex counters A, arranged as shown in Fig. 1, and subsequently splitting each obliquely through its longer axis or central line, as shown in Fig. 2, of the drawings

No. 4362. JOHN T. O'BRIEN and CHARLES C. CONTRELL, Brooklyn, N. Y., U. S., 8th February, 1875, for 5 years: "Apparatus for Weaving Headings for Fringes, &c." (Appareil à tisser la chaînette de la frange, &c.)

Claim—1st—The guide loops *h*, at the edges of the vertical bar *l*, combined with the clamping plate *o*, and tightening screw *r*, applied to hold the threads or warps *t*, as set forth. 2nd. The spring loops *u*, each attached at one end by a joint and catching into a hole in the vertical spool rod *s*, in combination with the said rod and the clamp *o*, for the thread upon the vertical bar *l*, as set forth.

No. 4363. JOHN G. EVENDEN and F. CORTEZ WILSON, Chicago, Ill., U. S., 8th February, 1875, for 5 years: "Measuring Pump for Drawing Oil from Cans." (Pompe-jauge pour tirer l'huile des bidons.)

Claim—1st. The adjustable stop M, in combination with the plunger rod *g*. 2nd The combination of the cylinder C, and Jacket H, with the valve opening K, between them as set forth. 3rd The combination of the cylinder C, the plunger F, and the escape pipe L, for allowing the oil to flow back as set forth. 4th. The combination of the cylinder C, surrounding jacket H, valve opening K, plunger rod *g*, escape pipe L, and adjustable stop M, as set forth. 5th. The elastic pieces O, and P, in combination with the plunger rod G, and stop M, as set forth.

No. 4364. ALEXANDER HEATHERINGTON, Halifax N. S., 8th February, 1875, for 5 years: "Machine for Amalgamating Crushed Ores of Gold and Silver, and for Separating, by Washing, Substances of Different Specific Gravities." (Machine à amalgamer les minerais d'or et d'argent broyés et séparer, par le lavage, des substances de poids spécifique différent.)

Claim—The chest *a*, *b*, *c*, *d*, *e*, in combination with all its parts, as shown in the drawing; 2nd. The inclined planes *h*, *h*, arranged one above the other and consisting of movable or immovable sup-

ports for amalgamable or amalgamated plates, or of movable or immovable sluices, or trays of wood or other material, with stepped, corrugated or plain surfaces, and intended to carry amalgamable or amalgamated plates when the apparatus is used as an amalgamator, as shown in the drawing. 3rd. The partition *q*, *q*, consisting of one or more metal plates, or of wood or metal, lined with an amalgamable surface on one or both sides, as shown in the drawing.

No. 4365. PURCHES MILES, New York, U. S., 8th February, 1875, for 5 years: "Bail Fastening for Pails, &c." (Ajustage des anses de seaux, &c.)

Claim—1st The wire bail fastening made of a wire loop *4*, upwardly penetrating points 2, 3, and the nearly straight portion 5, resting against the surface of the wood, as set forth. 2nd The wire bail fastening made with upwardly penetrating and clinching points in combination with a convex washer that prevents contact of the bail with the wood, as specified

No. 4366. CARLOS H. PARKER, Robinson, Que., 8th February, 1875, for 5 years: "Water wheel." (Roue hydraulique.)

Claim—1st. The gate or annular ring C, in combination with the cap E, with the standards F, F, and the gate staff N, and the rock posts P, P, the gears Q, Q, also the conical gears R, R, the cross shaft S, and the rollers U, T, the braces V, V, the cross beams W, W, and the lugs X, as described; 2nd. The double water wheel, Fig. 2, with the buckets *a*, *a*, above, and the buckets *d*, *d*, below, as and for the purposes described. 3rd. The shape of the upper buckets Figs. 3, *b*, *b*, for wood edge *e*, *e*, heel, and *d*, *d*, the double scroll, and the back surface *h*, *h*, all combined as described.

No. 4367. ASHER M. MILLER and MARSHALL M. MILLER, Sturgis, Mich., U. S., 8th February, 1875, for 5 years: "Bag-fastener." (Attache-sac.)

Claim—The curved and slotted plate A, and cord B, in combination with the eyelets in the mouth of the bag C, as set forth.

No. 4368. BENJAMIN F. BARKER, Curtisville, Mass., U. S., 8th February, 1875, for 15 years: "Improvements on Machines for Grinding Wood for Paper Stock." (Perfectionnements aux machines à triturer le bois pour la pâte à papier.)

Claim—1st. In combination with a revolving stone C, the wood holder described having its bottom D, inclined relatively to the stone, so that the wood in feeding forward shall move obliquely across the line of motion of the grinding surface as specified; 2nd. The grinding stone C, and the wood holder A, in combination with the follower M, springs *n*, and lever I, and its connecting branch piece B, with its rods *h*, *b*, for conveniently drawing back the follower for the introduction of new material as specified. 3rd. The rack *o*, pinion J, and weighted pulley K, in combination with the follower M, wedge-shaped wood holder D, II, and stone C, as set forth. 4th The construction of the pawl L, and stop K, with the follower M, and its impelling mechanism as described.

No. 4369. WILLIAM E. LAWRENCE, New York, U. S., 8th February, 1875, for 5 years: "Curry Comb." (Étrille.)

Claim—1st. The curry comb made with the wires *c*, running transversely to the comb plates, and returning behind the same to the handle *e*. 2nd. A curry comb in which the connection between the handle and the comb is strengthened by a brace extending from the handle shank towards the front part of the comb. 3rd. A curry comb made of a series of trough shaped plates with the toothed flange on one plate supported by the plane flange of the adjacent plate, in combination with connecting wires or knocker plates, as set forth.

No. 4370. JOSEPH LEMAY dit DELORME, Montreal, Que., 8th February, 1875, for 5 years: "Dumb-stove Ventilator." (Ventilateur de poêle sourd.)

Résumé—1o. Le poêle sourd A, ayant les tubes C, formant entre eux les conduits intérieurs pour le passage de la chaleur et de la fumée, construit tel que décrit; 2o. En combinaison avec le poêle sourd A, le réservoir G, et le tuyau d'appel ventilateur F, tel que décrit

Claim—1st. The dumb stove A, having the tube C, forming between them the internal conduits for the passage of the heat and smoke constructed as described; 2nd. In combination with the dumb stove A, the reservoir G, and the draught ventilator pipe F, as described.

No. 4371. GEORGE T. D. BARNJUM and WILBEUR F. DIAL, Montreal, Que., 8th February, 1875, for 5 years: "Speed Motion." (Mouvement de vélocité.)

Claim.—1st. The combination of the pulley *a*, with clutches *c*, *c*, having hub *u*, projections *o*, arms *p*, pivots *q*, pins *r*, and raw hide *s*, as described; 2nd. The combination of the four straps *e*, *e*, *e*, *e*, with the treadles *f*, and *f*, and bar *g*, as described.

No. 4372. MAURICE AHEARN, Ottawa, Ont., and MAURICE WALSH, Quebec, Que., 9th February, 1875, for 5 years: "Bread Slicer." (Découpeur de pain.)

Claim.—The triangular frame *A*, the race block *E*, lever *B*, or frame *a*, and knife *C*, lifting horizontally, as set forth.

No. 4373. TOBIAS WITMER, Buffalo, N. Y., U. S., 9th February, 1875, for 5 years: "Slicing Machine." (Machine à trancher.)

Claim.—1st. The combination of the cutter *C*, and gauge board *I*, when arranged so that its upper surface will always be in a line parallel to the surface of the cutter at any point of its vertical adjustment in the manner described; 2nd. The combination of the handle *M*, cams *J*, *J*, arms *N*, and gauge board *I*, all working together as set forth; 3rd. The grooved frame *B*, in combination with the cutter *C*, screws *G*, pins *B*, and hooks *B*; 4th. The combination of the grooved frame *B*, cutter *C*, and sliding box *E*; 5th. The jointed part *H*, hook *B*, or its equivalent and leg *K*, in combination with a slicing machine as described.

No. 4374. CHARLES C. MOORE, Elizabeth, N. J. U. S., 9th February, 1875, for 5 years: "Chewing Gum Candy." (Candi gomme à mâcher.)

Claim.—A confection consisting of molasses or sugar candy and chewing gum combined for the purposes set forth.

No. 1375. WILLIAM MUIR, Montreal, Que., 9th February, 1875, for 5 years: "Improvements on Hoistways." (Perfectionnements aux élévateurs.)

Claim.—1st. In combination with any hoistway provided with sliding doors, the rack shaft *C*, carrying lever *E*, engaging with stops *K*, and arm *F*, with or without roller *G*, acted upon by inclined planes *I*, as set forth; 2nd. The combination of the rack shaft *C*, with arm *F*, (with or without roller *G*), acted upon by inclined planes *I*, and lever *E*, acting by arm *M*, upon the doors, swinging outwardly, of any hoistway as set forth.

No. 4376. EDWARD P. FURLONG, New York, U. S., 9th February, 1875, for 5 years: "Improvements on Collars and Cuffs." (Perfectionnements aux faux-cols et poignets.)

Claim.—1st. The combination of two or more folds of different curvature, or in opposite directions in collars and cuffs, whereby the same are given the desired shape and strength, as set forth; 2nd. A paper cuff or collar having a curved edge turned in on the convex side of the crease *c*, made for turning the same by stretching the part *a*, inside the said crease, and shrinking or contracting the part *b*, on the outside of said crease, as described.

No. 4377. ERASTUS WOODWARD and EDWARD D. GOODSON, Boston, Mass., U. S., 9th February, 1875, for 5 years: "Eyeletting Machine." (Machine à poser les œillets.)

Claim.—The rocker shaft *L*, provided with the bifurcated feeding pad *I*, and operated by the vertical arm of the crank lever *P*, in combination with the lever *P*, the vertical shaft *E*, carrying the adjustable arm *J*, on which is fitted the punch *K*, the horizontal bar *I*, and the lever *H*, all constructed and operated as set forth; 2nd. The rocker shaft *L*, provided with the feeding pad *I*, the bolt crank lever *P*, vertical shaft *E*, adjustable arm *J*, and horizontal bar *I*, in combination with the stud *Q*, working in the slotted standard *R*, and movable carriage *B*, as set forth; 3rd. The shaft *L*, provided with the eccentric *p*, and nut *D*, for moving and securing the carriage *B*, on the bed *A*, as specified; 4th. The pipe *v*, in combination with the piston in the head of the hollow standard *R*, as set forth; 5th. The shaft *G*, cam wheels *T*, *F*, and pivoted levers *J*, *H*, combined with the punch-shaft and set stock, to operate as set forth; 6th. The hollow slotted standard *R*, having a piston rod provided with the stud *Q*, the lever *P*, arm *I*, spring *a*, and shaft *E*, combined to operate as set forth.

No. 4378. ALFRED EDWARDS, New-Haven, Ct., U. S., 9th February, 1875, for 5 years: "Improvements on Wooden Shoes." (Perfectionnements aux sabots.)

Claim.—1st. A clog or patten constructed of two wooden parts fastened together one over the other, as set forth; 2nd. The elastic ankle guard *E*, in combination with a wooden shoe or patten as specified; 3rd. The clog or patten described having the two wooden parts *A*, *B*, secured one above the other by the fastenings and having the lining *D*, and ankle guard *E*, combined therewith for the purposes set forth.

No. 4379. EDWARD WASELL, London, Ont., 9th February, 1875, for 5 years: "Improvements in Trusses for Bridges and Roofs." (Perfectionnements aux travées de ponts et de toitures.)

Claim.—The combination of the iron or steel rails, of the same description as those used upon and forming part of the superstructure called the track of rail-ways, in such a manner as to form the chords or booms *A*, and *B*, and the posts and braces *C*, of trusses similar and of the same description as those illustrated in Figs. 1 to 3, as set forth.

No. 4380. OWEN EVANS, Halifax, N. S., 11th February, 1875, for 5 years: "Fret Saw-frame." (Scie à découper.)

Claim.—The combination of spring *F*, in conjunction with tenon and mortise joint with double bevelled shoulders *H*, working on pivot *C*, and auxiliary rubber band *I*, as set forth.

No. 4381. SALEM T. LAMB, New-Albany, Ind., and BENJAMIN F. AVERY, Louisville, Ky., U. S., 11th February, 1875, for 15 years: "Nut-lock and Washer." (Ecroû et rondelle de sûreté.)

Claim.—In combination with a bolt and nut, a lock plate washer *a*, having an external rim *c*, and a series of fingers *c*, attached thereto and projecting therefrom toward the nut in a direction oblique to the centre of the nut as described.

No. 4382. WILLIAM MUIR, Montreal, Que., 11th February, 1875, for 5 years: "Improvements on Hoistways." (Perfectionnements aux élévateurs.)

Claim.—1st. The combination of the door *B*, hinged stops *C*, and bars *F*, working in combination with the projections *D*, attached to the travelling platform of any hoistway, and with the projection *X*, as described; 2nd. The combination of the rest *K*, and pivoted levers *L*, with arms *L*, for the purpose of retaining in a raised position the doors sliding upwards of any hoistway, and the inclined planes *M*, secured to the travelling platform *E*, to reverse this action and allow the doors to fall, as described; 3rd. The travelling platform *E*, provided with springs or hinged bars *O*, engaging with projections *H*, on weights *H*, and acted upon by projections *P*, as described.

No. 3835. JOHN AIKMAN, Norwich, Ont., 11th February, 1875, for 5 years: "Portable Feeding-fence for Pasture Fields." (Clôture mobile d'enclos à pâturage.)

Claim.—The combination and arrangement of the several parts, namely: the fence rails *A*, and the standard arms *B*, working on the joint irons *C*, in connection with the screw *D*, and the flange *E*, for the purpose of a revolving feeding fence all operating as set forth.

No. 4384. THOMAS A. RISHER, Kansas, Mo., U. S., 11th February, 1875, for 5 years: "Steam Engine." (Machine à vapeur.)

Claim.—The combination of the cylinder *A*, provided with the annular steam passage *B*, constructed as described, two or more movable pistons *G*, *G*, packing *i*, and two or more steam-chests having ports and valves, as described.

No. 4385. OREN BALDWIN, Keokuk, Iowa, U. S., 11th February, 1875, for 10 years: "Combined Radiator and Damper for Stove-pipes, &c." (Radiateur-clef pour les tuyaux de poeles, &c.)

Claim.—1st. A hollow damper *H*, having an extension at each end, in combination with a radiator having partitions or walls *E*, *E*, on its inside to form passages for the smoke, all made as set forth; 2nd. The combination of a hollow damper *H*, and a radiator, the parts being arranged as shown, whereby the damper will

form a passage through which the smoke can escape, will divert the smoke from one side to the other, or will stop or check its escape as specified; 3rd. The combination of the pipe A, the radiator and partitions F, F', with the hollow damper H, having and extension H', H'', at each end, as set forth.

No. 4386. EDWARD M. LAW, Bell-Ewart, Ont., 11th February, 1875, for 5 years: "Improvements on the Millar Car-coupler." (Perfectionnements à l'attelage de wagons dit "de Millar.")

Claim—1st. The angular compression bar H, in combination with a hooked draw bar A, and the lateral pressure spring C, described; 2nd. The angular compression bar H, in combination with the buffer bar E, and spring G, operating as set forth; 3rd. The cross bar O, in combination with the interposed sliding plate p, as shown in Fig. 3.

No. 4387. JAMES G. TAYLOR and HENRY F. TAYLOR, Brusher-Falls, N. Y., U. S., 12th February, 1875, for 5 years: "Improvements on Horse-powers." (Perfectionnements aux manèges.)

Claim—1st. The vertical shaft F, and longitudinal shaft G, and their respective gears-wheels supported by the beam C, in combination with the frame D, and the shaft A, having a gear wheel and sweeps or levers, all constructed to operate as described; 2nd. The counter shaft s, horizontal and vertical shafts G, F, and their connecting gear-wheel, in combination with the frame D, beam C, and driving shaft A, all constructed to operate in the manner described.

No. 4388. WILLIAM W. LEWIS and JOHN MITCHELL, Cincinnati, Ohio, U. S., 12th February, 1875, for 10 years: "Horse-shoe Blank Rolling Machine." (Machine à laminer les flancs des lers à chevaux.)

Claim—1st. A pair of rolls for rolling horse-shoe blanks of which one is grooved and has a creaser in the groove, and the other has an inclined face opposite the groove in the first for producing a blank with an under cut crease, as described; 2nd. A pair of rolls for rolling horse shoe blanks of which pair one has a groove with a creaser in it, and a bevelled or rounded side to the groove and next the creaser for producing a horse shoe with a bevelled edge, so that the horse will not cut himself when he interferes; 3rd. The process in rolling a horse shoe blank with a crease in it of forming the blank by means of rolls, one or both of which are grooved and one of which has a creaser in its groove, and the other an inclined face, or when grooved an inclined bottom to its groove, opposite the creaser in the groove of the first for the purpose described.

No. 4389. ALFRED WILLSON, PRINCE E. DRAKE and EDWARD M. LAW, Belle-Ewart, Ont., 12th February, 1875, for 5 years: "Car-coupler." (Attelage de wagons.)

Claim—1st. The draw head A, with inclined link seat A', and solid top A'; 2nd. The draw head A, with groove a, pivoted pin B, in combination with the movable jaw E, lever F, and spring p, or its equivalent, arranged and operating as described; 3rd. The hinge i counter-balanced weights C, or their equivalents, in combination with the draw head A, as described.

No. 4390. JAMES LAING, Dundee, Scot., 15th February, 1875, for 5 years: "Improvements on Overhead Sewing Machines." (Perfectionnements aux machines à coudre en dessus.)

Claim—1st. The general arrangement and combination of mechanism constituting the "overhead" sewing machine; 2nd. The solid cylindrical spiral hock or needle a, and the mechanism F, H, I, and J, for supporting confining and driving the same as described; 3rd. The thread barrel J and drag or tension t, and mechanism I, K, L, M, N, K, a, connected with the same whereby together with the needle a, they are caused to make the overhead stitch or seam as described; 4th. The arrangement and construction of apparatus consisting of the receptacle G, tension 7, thread arm I, lever 4, plate 5, and spring 8, whereby the attendant is enabled to thread the needle a, as set forth; 5th. The arrangement of thread reel E, and pendulous tube C, and apparatus b, c, d, F, G, m, n, o, H, K, in connection therewith whereby the feeding or supplying of thread, cord or string to the needle and thread barrel is rendered self-acting as described; 6th. The employment of the spiked pitch claim K, as described.

No. 4391. FRANK C. PORTER, Buffalo, N. Y., U. S., (Assignee of S. T. Waggoner) 15th February, 1875, for 5 years: "Folding Table." (Table pliante.)

Claim—1st. The combination with the bed and hinged leg of a table of the guides t, of brace C, provided with a spring catch e, as set forth; 2nd. The combination with the hinged legs and braces B, C, of the pivoted button s, for securing the legs in a folded position, as set forth.

No. 4392. CHARLES W. SELINNS and ASHBEL A. STIMSON, Montpelier, Vt., U. S., 16th February, 1875, for 5 years: "Door Spring." (Ressort de porte.)

Claim—1st. A door spring-pulley-wheel having its groove formed of curved lugs e, placed on one side thereof, as described, so as not only to answer the ordinary purpose of a groove, but to allow the tension of the spring to be adjusted by passing the cord or chain over a different number of lugs; 2nd. A bent pin or catch G, combined with a door spring wheel E, having notches at or near the periphery, as set forth, to hold it while the tension of the springs is being adjusted for the purpose set forth.

No. 4393. JOHN T. B. BENNETT, Birmingham, Eng., 16th February, 1875, for 5 years: "Manufacture of Coke and Illuminating Gas." (Fabrication du coke et du gaz d'éclairage.)

Claim—The combination of one or more coking furnaces C, D, with one or more gas retorts C, H, I, or with the hydraulic main of gas works in the manner described, that is to say, for utilizing the volatile unburned matters given off during the coking process by conveying the said volatile unburned matters either to the gas retort or direct to the hydraulic main, the arrangement of coking furnaces C, D, oven F, gas retorts e, H, I, and their passages, flues, dampers and connecting pipes, be used in the combined manufacture of coke and illuminating gas, a coking furnace C, D, having a pipe T, in addition to the ordinary escape flue for the products of combustion to connect with the hydraulic main of a gas manufactory, or with a blast furnace or other furnace in which metallic ores are to be reduced, as described.

No. 4394. JOSEPH C. TILTON, Pittsburgh, Pa., U. S., 16th February, 1875, for 5 years: "Wash-Boiler." (Chaudière de buanderie.)

Claim—The false bottom B, having the tubes F, F', secured to the boiler by the angle bolts G, G', as set forth.

No. 4395. JOHN CARPENTER, Mariners' Harbour, N. Y., U. S., 16th February, 1875, for 5 years: "Waggon Spring." (Ressort de voiture.)

Claim—A carriage spring formed of the lever pieces C, rubber s, rings E, L, bolts H, and axle or bolster A, F, combined as described.

No. 4396. THOMAS SHAW, Philadelphia, Pa., U. S., 16th February, 1875, for 5 years: "Steam, Air and Hydraulic Cushion Seated Valve." (Soupape à coussinet atmosphérique, hydraulique et à vapeur.)

Claim—1st. The plunger and piston heads u, and t, projecting from the seat of valve c, in combination with the cylinders r, and e, for the purpose of forming the cushioned seat as described; 2nd. The combination of a flexible disc h, with valve c, for the purpose set forth.

No. 4397. HFEZKIAH HARRIS, Seaforth, Ont., 16th February, 1875, for 5 years: "Stove-Pipe Damper and Spark-Arrester." (Clef de tuyau de poêle arrête-étincelles.)

Claim—A damper and spark arrester, for stove-pipes, having two openings B, B, in the plate A, the openings being covered with caps or hoods C, C, one on each side of the plate A, the whole being constructed and arranged as set forth.

No. 4398. BENJAMIN ARNOLD, East Greenwich, R. I., WILLIAM E. HOOPER, WILLIAM J. HOOPER, THEODORE HOOPER and JAMES E. HOOPER, Baltimore, Md., U. S., 16th February, 1875, for 5 years: "Machine for Making Netting for Fishing and other purposes." (Machine à faire des filets pour la pêche et autres fins.)

Claim—1st. A machine for making nets for fishing and other purposes in which a knot is made, a series of stationary flat bobbins arranged side by side on their edges in combination with knot forming mechanism as described; 2nd. The combination of the feed-rolls G, H, and e, operating as described in combination with the lever j, clamp p, rack h, gear wheel l, and ratchet wheel I, as set forth; 3rd. The combination of the plate K, and its pins

with the plate O, and its eye-pins moving in concert with each other as set forth; 4th. The tie-roll F, constructed and operating as specified; 5th. In combination with a series of flat bobbins such as described, a series of hooks G, operating as specified; 6th. The combination of the lever I, clamp P, rack K, gear wheel L, and ratchet wheel M, as described; 7th. The guide-plate N, in combination with the bobbins S, and hooks T, as set forth; 8th. The bar V, with its points in combination with the bobbins S, hooks T, for the purpose specified; 9th. The combination of the guide-bar U, and tie-roll F, arranged and operating as set forth; 10th. The combination of the cam C, with the loop-hook-lever A, tie-roll lever B, and lead roll lever E, arranged and operating as set forth.

No. 4399. WILLIAM ADAMSON, (Co-inventor with and Assignee of C. F. A. Simonin) Philadelphia, Pa., U. S., 17th February, 1875, for 5 years: "Method of Treating Farinaceous Substances." (Mode de traitement des substances farineuses.)

Claim—The mode of preparing farinaceous substances for conversion into starch, beer or alcohol, by the action of heated hydrocarbons, as described.

No. 4400. LEVI H. YOUNG, Saint John, N. B., 18th February, 1875, for 10 years: "Punching Machine for Washers, &c." (Machine a decouper les rondelles, &c.)

Claim—1st. The combination with the moveable annular cutter E, stationary die D, and punch F, of the forming and discharging sleeve G, actuating rod K, arm J, discharging bar M, and operating slide B, said parts being constructed and arranged for operation as set forth; 2nd. The combination with the dies and punches E, D, F, and former or discharger G, of the adjustable frictional stop-piece H, as set forth; 3rd. The combination with the face of the discharger or former G, or its equivalent, of the spring or spring stud L, as set forth.

No. 4401. SENECA DOBBS and WILLIAM M. BRAYTON, Rochester, N. Y., U. S., 18th February, 1875, for 5 years: "Hanger for Picture Frames." (Accroche-cadre.)

Claim—1st. A self-sustaining hanger A, provided with spurs or points B, B, and held in place either by an expansion between the points of attachment or by the weight applied on the hanger as described; 2nd. The combination with the hanger A, of the right and left screws B, B, and connecting nut C, as specified; 3rd. The combination with a self-attaching hanger A, of the covering shield or moulding G, as specified.

No. 4402. ISAAC F. WILLIAMS, Bristol, R. I., U. S., 29th February, 1875, for 15 years: "Rubber Boots." (Bottes en caoutchouc.)

Claim—A boot composed of textile fabric and vulcanized rubber provided with a practically seamless foot composed of vulcanized rubber and textile fabric, and a leg also composed of vulcanized rubber and textile fabric constructed with overlapping sections as described.

No. 4403. FREDERICK KENT, Hamilton, Ont., 20th February, 1875, for 5 years: "Tire-Tightener." (Appareil à serrer les bandages de roues.)

Claim—The recessed plates A, A, having projection C, clamped by screw-bolts B, B, in combination with the jack-screws D, operating as set forth.

No. 4404. JOHN B. LARKIN, Pittsburgh, Pa., U. S., 20th February, 1875, for 5 years: "Improvements on Grates." (Perfectionnements aux Grilles.)

Claim—1st. In combination with the grate frame A, and the longitudinally reciprocating grate bars a, the supplementary transverse bars or bridges B, supporting the bars a, at their ends, said grate-bars and bridges being correspondingly grooved, or recessed and ridged, as described; 2nd. In combination with the longitudinally vibrating grate bars a, the simple lever C, constructed to each separately, and having independent fulcrum d, below, as described.

No. 4405. EDWIN R. WHITNEY, Magog, Que., 28th February, 1875, for 5 years: "Hay-Loader." (Elevateur à foin.)

Claim—1st. The shafts C, and eccentrics or cams B, in combination with the elevating bars D, provided with teeth F, and operating as set forth; 2nd. The coiled spring forks H, secured to the ends of the bars D, to operate as described; 3rd. The arms T, fixed to the bars D, and arms U, fixed to the bars G, for the purpose set forth; 4th. The flexible or spring bar G, in combination

with the lifting bars D, as specified; 5th. The rope or flexible band I, and independent springs J, applied to the bars G, and operating as set forth; 6th. The slotted arms K, and slotted frame L, in combination with the main frame A, and bars G, operating as set forth; 7th. The spring Q, in combination with the tongue U, as set forth; 8th. Providing the frame A, with the wheels O, as set forth; 9th. The pawl N, held by a bent leverage connection with the spoke, or a slip ring as described.

No. 4406. NAPOLEON DUBRUL, Cincinnati, Ohio., U. S., 20th February, 1875, for 5 years: "Cigar Mould." (Moule de cigars.)

Claim—1st. The series of plungers P, connected by one or more back strips B, so that they may be pressed down simultaneously, and projecting over the longitudinal bars A, A, of the base, so as to limit their downward movement and prevent their separation from the base, all constructed and combined as set forth; 2nd. The connected series of plungers having a limited up and down movement as described; in combination with a mould-base, below which the backing of the plungers projects in the retracted condition of the plungers, as designated.

No. 4407. THOMAS DE CODEZO, New York, U. S., 20th February, 1875, for 15 years: "Smoke and Spark Conveyer for Locomotives." (Conducteur de fumée et de flammèches pour les locomotives.)

Claim—1st. In combination with the sectional conveyer tube and telescopic joint and spring L, a connection pipe M, forming with the sliding joint a ball and socket joint, as set forth; 2nd. In combination with the conveyer-tube A, and up take B, having a horizontal discharge, the valves C and D, arranged to operate in relation to one another, for adjusting the draught as set forth; 3rd. In combination with the conveyer tube A, having an open mouth, the uptake B, forming a continuous curve from its point of emergence from the flue chamber to its mouth in the conveyer as shown; 4th. The water recess P, formed in the conveyer-tube by curving the same, as set forth.

No. 4408. ISAAC F. WILLIAMS, Bristol, R. I., U. S., 20th February, 1875, for 15 years: "Rubber Boot Last." (Forme pour bottes en caoutchouc.)

Claim—1st. In a last having a foot and a leg, the receding front leg outline, as described; 2nd. The concave outline at the rear of the leg, ankle and heel, as described; 3rd. The concave side lines, with the greatest depth adjacent to the ankle, as described; 4th. An outline at the front of the leg which recedes to the rear from the instep upward, a concave outline at the rear of the leg adjacent to the ankle, and concave side lines, as described.

No. 4409. S. LLOYD WIEGAND, Philadelphia, Pa., U. S., 20th February, 1875, for 5 years: "Improvements on Grate Bars for Furnaces." (Perfectionnements aux barres des grilles de fourneaux.)

Claim—1st. The novel combination of a duplex E and E', bearings formed on each bar with the angularly arranged wrists F and F', as set forth; 2nd. The system of fuel supporting loops C, combined with the web B, in a vibrating grate bar as set forth; 3rd. The combination of the bearing bars J, with rock shafts G, provided with wrists F and F', angularly arranged as set forth.

No. 4410. THOMAS IRWIN, Hamilton, Ont., 20th February, 1875, for 5 years: "Improvements on Hot Air Furnaces." (Perfectionnements aux calorifères.)

Claim—1st. A series of conical or wedge-shaped tubes e, the lower tire resting upon flanged openings on the cone-ring N, and forming a circular ring J, with a perforated arched roof K, as specified; 2nd. The eight (more or less) flanged openings D, in the arched roof K, for receiving the lower ends of conical shaped tubes e, as specified; 3rd. The combination of the arched roof K, with the series of conical shaped tubes e, as specified; 4th. The arrangement of the forked pipes L, in combination with the top ring R, as specified.

No. 4411. WILLIAM STEPHENSON, Acton, Ont., 20th February, 1875, for 5 years: "Steel Tempering Oven." (Fourneau à tremper l'acier.)

Claim—A tempering furnace having an inclined position, and an oven H, arranged and heated by the flues E, F, above and below the same from a fire chamber C, in the manner set forth.

No. 4412. EPHRAIM HAMBURGER, Detroit, Mich., U. S., 22nd February, 1875, for 5 years: "Separable Chair and Cradle." (Chaise-berceau divisible.)

Claim—1st. The seat E, side D, arm Di, back F, dowel pins I, I, cleat K, and rocker G, made separable or fixed and acting in com-

bination for the purposes set forth; 2nd. The grooves H, H₁, and stop pin J of the cradle, as described, which cradle is made separable or fixed acting in combination with the parts of the chair set forth in the first claim, the chair and cradle working together, as described, or in any other manner substantially the same.

No. 4413. JOHN GRIST, jr., Ottawa, Ont., (Assignee of A. Huber) 22nd February, 1875, for 5 years: "Improvements on Mirrors." (Perfectionnements aux miroirs.)

Claim.—1st Coating the silvoring of a mirror plate with a water proof material or liquid B, and a covering of cement or calcined gypsum C, applied in a plastic state to harden therein when dry for the purposes set forth; 2nd. Securing a mirror plate A, or picture in a frame D, by a backing of cement or calcined gypsum C, applied in a plastic state to adhere to the plate and frame when dry, as set forth.

No. 4414. JOHN M. BRUCE, West-Townsend, MASSENA M. HEATH and GEORGE E. UNDERWOOD, Ayer, Mass., U. S., 22nd February, 1875, for 5 years: "Improvements on Street Lanterns." (Perfectionnements aux lanternes de rues.)

Claim.—The combination of the posts B and B₁, the lantern L, chains D, D₁, and counter weights, all operating together as described.

No. 4415. JOHN M. BROSIUS, and SAMUEL K. CAMPBELL, Richmond, Va., U. S., 22nd February, 1875, for 5 years: "Car Axle Box." (Boîte d'essieu de wagon)

Claim.—1st. The combination with axle box, of a journal gate E, having excisions e, e, and the guide groove E₁, having inclined strips e₁, e₁, placed in the lower end, as set forth; 2nd. The plate F, projecting inwardly from the rear of the axle box, as specified; 3rd. The combination, with an axle box having the annular recess or groove a₁, of the elastic ring I, as set forth; 4th. The combination with axle box of a device to hold the lubricating fabric to the journal consisting of the plate spring K, placed longitudinally on the bottom of the box, fastened at the outer end, and the cross bar K₁, as described; 5th. The combination, with lubricating fabric J, of the slotted holder J₁, and guide plate J₂, as described; 6th. The combination with spring band K, of a pivoted fabric-holder s₁, as specified.

No. 4416. THOMAS SULLIVAN, Belleville, Ont., 22nd February, 1875, (Extension of Patent No. 254), for 5 years: "Tire Upsetting Machine." (Machine à refouler les bandages de roues.)

Claim.—The arrangement and combination of the various parts of the machine, viz the moveable bed plate C, being drawn towards the fixed bed plate B, by the application of the lever N, to the curved rack I, the eccentrics D, D₁, to hold the tire to be shortened firmly to the bed plates B and C.

No. 4417. DAVID S. CORNELL, WARWICK, and ELI B. WHITE, Bosanquet, Ont., 23rd February, 1875, for 5 years: "Straw-Cutter." (Hache-paille.)

Claim.—1st. The post C, secured to the box and legs of the machine by horizontal bars D, in combination with a diagonal knife holder connected thereto by end pivots I, bars G, and having a suitable handle F, for operating the knife P, as set forth; 2nd. Proving the bars G, with an adjustable block J, operated by set screws K, for gauging the feed-cut, as set forth; 3rd. The combination of the frame M, rod a, spring N, and treadle Q, operating as set forth, for depressing the feed roller or block L, in the cutting box A, as described.

No. 4418. ALEXANDER RODGERS, Muskegon, Mich., U. S., 23rd February, 1875, for 5 years: "Circular Saw Carriage." (Table mobile de scie ronde.)

Claim.—1st. The supplementary rack D, in combination with the head block B; 2nd. The stops E, upon the rack D, in combination with the stops Q, upon the head block B; 3rd. The disengaging rack L, in combination with the setting jack C, and adjusting lever F; 4th. The reciprocating rack G, in combination with the setting shaft O, provided with the tooth H; 5th. The cam I, operated by the hand lever, in combination with the toothed arc J, and setting rack G; 6th. The flat form S, in combination with the device for retracting the setting jacks; 7th. The dogs V, provided with the rubber cushions g, in combination with the oscillating

posts V, and setting jack C; 8th. The setting shafts N, and O provided with the adjustable couplings, as described, for the purpose of regulating the relative positions of their pinions or other operating devices, as set forth.

No. 4419. THOMAS PENTON, Sarnia, Ont., 23rd February, 1875, for 5 years: "Combination of a Steam Engine with a Cooking Stove." (Ajutage d'une machine à vapeur à un poêle de cuisine.)

Claim.—The combination of the steam boiler B, engine D, and connecting pipe K, with the parts of cooking stove A, C, E, and F, as set forth.

No. 4420. LEWIS M. BECKER, Peckham, Eng., 23rd February, 1875, for 5 years: "Improvements on Sewing Machines." (Perfectionnements aux machines à coudre.)

Claim.—1st. The adaptation to and use in sewing machine spools and shuttles of cotton thread or other sewing material a, ready wound or spooled in appropriate forms, as described, upon perforated card or other material b or upon bobbins c, such perforated card or other material c, bobbins as the case may be, being arranged to enter and be retained within the pool d, e, e₁, or shuttles f, of such machine, as set forth; 2nd. The construction of sewing machine spools in which the two discs or plates d, f, can be readily separated and the sewing material a, previously wound into an appropriate form placed upon the shank or body e, of the spool between the two discs as described; 3rd. The methods of securing bobbins c, of ready wound sewing material a, in the shuttles f, of sewing machines, as described; 4th. The application and use in combination with the reel n, and fixed spindle or pillar o, in a sewing machine of a guide m, for equalizing the tension or strain upon the cotton or sewing material a, as described.

No. 4421. BENJAMIN WAGGONER, Reach, Ont., 23rd February, 1875, for 5 years: "Improvements on Gang Plooughs." (Perfectionnements aux charrues à socs multiples.)

Claim.—The use of the swivel axle D, for the front wheel of gang ploughs so constructed as in turning to bear against the crank E, as set forth; 2nd. The use of an adjustable coupling K, connecting the handle O₁, with the crank H, of the back wheel as set forth; 3rd. The use of the swivel box N, and the jointed arm L, L₁, in connection with each other, as set forth.

No. 4422. BENJAMIN WAGGONER, Reach, Ont., 23rd February, 1875, for 5 years: "Iron Neck Yoke." (Joug en fer.)

Claim.—1st. The mode of constructing neck yokes out of bar iron in the shape shown in the drawings; 2nd. The use of the ferule E, as applied to iron neck yokes as set forth.

No. 4423. JAMES F. WILLIAMS, Niagara, Ont., 23rd February, 1875, (Extension of Patent No. 257,) for 5 years: "Boot and Shoe Latchet Loop." (Bride de lacet de chaussures.)

Claim.—The use of loops A, arranged to interrene each other on each side of the opening to be closed to receive a string C; also the application to the loops A, of an external metallic band to be rivetted or otherwise fastened to the sides of the opening to be laced for strengthening the loop and ornamenting the boot or shoe; also the application to boots and shoes for the purpose of fastening of independent loops, to be attached to the sides of the opening to be closed to receive the lacing string C, in the manner substantially as described and set forth.

No. 4424. JOSEPH H. OSGOOD, Boston, Mass., U. S., 24th February, 1875, for 5 years: "Composition for Printers Inking Rollers." (Composition pour les rouleaux de distribution de l'encre d'imprimerie.)

Claim.—1st. The process described for making a granular composition to be cast into printers inking rollers or melted for an adhesive cement, the same consisting in combining glue, water and saccharine matter without the application of heat, in the manner set forth; 2nd. The granular composition described, consisting of glue, water and saccharine matter for the purpose specified.

No. 4425. FINIS L. BATES, Carrollton, Mis., U. S., 24th February, 1875, for 5 years: "Nut-lock." (Noix de sûreté.)

Claim.—A nut having its threaded portion extending partly through the aperture, in combination with an ordinary screw-bolt, so that when the nut is applied the wrent portion of the aperture of the nut will strip one or more threads from the bolt, as specified.

No. 4426. EDWIN R. POWELL, Winooski, and FREDERICK C. KENNEDY, Burlington, Vt., U. S., 24th February, 1875, for 5 years: "Wheel-harrow." (Herse à avant-train.)

Claim.—1st. The combination with the sulky frame A, B, C, D, and harrow proper G, of the low truck E, F, adjustable clevises K, K', (in connection with the loose collars J, J', having perforated legs j, j'), draught rods H, H', (with adjustable links on one end), and chains I, M, constructed and arranged as described; 2nd. The tooth g², composed of the cast or malleable head l, steel mould board 2, and rebated and reinforced joint and shoulder 4, constructed and arranged as described; 3rd. The axle tree-A, wheels B, B, tongue C, c, seat D, pulley bracket and pulleys P, N, O, and hand lever L, l, the whole constituting an improved sulky-frame, constructed, combined and arranged in the manner described; 4th. The peculiar form of the harrow tooth g¹, and the adjustable clevises K, K', constructed as set forth.

No. 4427. WILLIAM J. GARTON and WILLIAM WARD, Toronto, Ont., 24th February, 1875, for 5 years: "Wax Thread Heating Machine." (Machine à chauffer le fil ciré.)

Claim.—1st. The steam generating boiler A, in combination with the water supply tanks G, and H, and operated as set forth; 2nd. The steam drum L, with guides c, f, and spring g, as shown; 3rd. The guide p, in cistern B, in combination with the rubber cleaners N, as described; 4th. The vertical heater M, as described.

No. 4428. MOSES HUTCHINSON, Norfolk, N. Y., U. S., 24th February, 1875, (Extension of Patent No. 4298,) for 5 years: "Heating Drum." (Poêle-sourd.)

Claim.—A heating drum in which the upper and lower sections or heads are provided with horizontal flues connected or united together by vertical pipes, the combination with such parts of the partitions arranged in the upper and lower heads for interrupting the passage of the gases on their way to the exit pipe, in the upper section, and causing them to circulate before escaping through the lower and upper flues as described.

No. 4429. ALEXANDER RODGERS, Muskegon, Mich., U. S., 24th February, 1875, for 5 years: "Improvements in Gang Saw-mills." (Perfectionnements aux moulins à scies multiples.)

Claim.—1st. The girt G, provided with a noddle pin p, forged from the same piece of metal as the girt, and forming a component part thereof; 2nd. The rock shafts H, provided with the slotted arm a, and arm b, with its wrist pin b, sleeve c, and jam nut g; 3rd. The girt constructed as set forth, in combination with the rock shafts H, pin a, and pitman F; 4th. The girts G and M, the latter being provided with the brackets N, carrying the blocks K, in combination with the shoulder pieces O, and P, and hollow columns L; 5th. The method of imparting an oscillatory movement to a saw frame by means of independent rock shafts acting upon the slide blocks, as described; 6th. The gauges T, or their equivalents, applied to the styles of a saw frame, as set forth.

No. 4430. ENOCH H. AYDON, Wantsworth, and EDWARD FIELD, London, Eng., 26th February, 1875, for 5 years: "Improvements in the Smelting of iron and other Ores, &c." (Perfectionnements dans le fondage des minerais de fer et autres, &c.)

Claim.—The described process of blowing, smelting furnaces, and reducing, carbonising, or decarbonising the iron or other ore, and removing deleterious substances therefrom, as described; 2nd. Constructing smelting furnaces in two (or more parts,) a, b, with contractions f, in such manner that the metal may be melted or fluxed in the upper part a, of the chamber, from whence it descends into the lower chamber (or chambers) b, to undergo such further treatment as may be requisite, as described; 3rd. The use or employment of superheated steam in combination with waste gases, heated air and other gases, petroleum and other ingredients for the purpose of blowing blast and other furnaces, and thereby enabling blast engines to be dispensed with, as described; 4th. The construction of injecting or feeding apparatus with flattened or elliptical orifice a, or adjustable outlets through which the steam issues in its passage towards the stream of liquid fuel to be projected into the furnace, as described; 5th. The use or employment of injecting or feeding apparatus constructed and placed, as shown; 6th. The construction of injecting or feeding apparatus with an annular space c, whereby the liquid fuel (in its passage to the exit nozzle a, is protected from carbonization; 7th. The use or employment of a jet or jets of combined steam and liquid fuel according to the specification of Wise, Field & Aydon's, British Patent, No. 2561, dated 18th October, 1865, in conjunction with a jet or jets composed of superheated or other steam mixed or intermingled with air or other gases and disintegrated fuel or other material, in such manner that the jet or jets of combined steam and liquid fuel is or are met and projected into the furnace or com-

bustion chamber by the jet or jets composed of superheated or other steam, mixed or intermingled with air or other gases, and disintegrated fuel or other materials, as described; 8th. The use or employment in combination with apparatus for injecting liquid fuels and other ingredients into furnaces of inclined walls, bridges, or boffes d, as shown and described, against which such liquid fuels and other ingredients are projected for decomposition and combination, as described; 9th. Constructing pipes of iron lined or coated with fireclay, plumbago mixture or composition, or of iron coated internally with Ransom's Patent Selicia Composition, as and for the purposes described.

No. 4431. WILLIAM JOHNSTONE and WILLIAM W. ROBERTSON, Montreal, Que., 26th February, 1875, for 5 years: "Plane Iron Adjustment." (Ajustage des fers de rabots.)

Claim.—1st. The plane A, having bars B, B, in combination with screw D, nut E, and plane iron C, having slits F, and F', as described; 2nd. In combination with the plane A, and plane iron C, the cam G, having handle t, projection k, and pin a, as described; 3rd. In combination with the plane body A, the carrying piece H, screw D, nut E, and plane iron C, having slits F, and F', as described.

No. 4432. HENRY M. CONVERSE and GEORGE S. CODD, Waterloo, Que., 26th February, 1875, for 5 years: "Apparatus for Blinds, Scenes, &c." (Ajustage des jalousies, décorations, &c.)

Claim.—1st. The combination of the blind or scene B, roller C, sheaves D, weights E, and cords f, as described; 2nd. The combination of cords g, and g', roller C, bearings A, and guide or guides c; 3rd. The combination of cords g, and g', with catch G, having guide b, holes c, and c', bar d, lever e, pivot i, guide j, and tassel E', as described.

No. 4433. JEAN B. TISON, (cessionnaire de P. E. Jay), Montreal, Que., 26 février, 1875, pour 5 ans: "Machine pour fermer les croisées." (Window Fastening Machine.)

Résumé.—1o. La combinaison des broches b, b, avec le disque c, par le moyen des bielles d, d, tel que décrit; 2o. La combinaison d, un oiliquet g, au moyen du ressort i, et de la clef h, tel que décrit.

Claim.—The combination of the pins b, b, with the disc c, by means of the connecting rods d, d, as described; 2nd. The combination of a catch g, working by means of the spring i, and of the key h, as described.

No. 4434. PHILIPPE BEAUDRY, and GILBERT A. CHOQUETTE, Ottawa, Ont., 27th February, 1875, for 5 years: "Improvements on Motors." (Perfectionnements aux moteurs.)

Claim.—1st. The combination of the T-shaped lever L, hung on the shaft D, with the trestles B, B, supported by the frame A; 2nd. The combination of the walking beam G, hung on the shaft D, the pitman H, H, with the T-shaped-lever L; 3rd. The combination of the fly wheel O, and pulley P, hung on the axle K, set in movement by the cranks or crank wheels I, I, connected to the pitman H, H, with the walking beam G; 4th. The combination of the rod E, and the arm F, with the T-shaped-lever L; 5th. The combination of the rod Q, and weight R, with the walking beam G; 6th. The combination of weights with the T-shaped-lever L, said weights being hung at the extremities of its cross-piece and at the foot of its pry g; 7th. The combination of water to be used as weight with a T-shaped-lever L, and fitting the hollow of its cross-piece, as set forth.

No. 4435. JOHN DEWE, Ottawa, Ont., 27th February, 1875, for 5 years: "Improvements on Mail or other Bags." (Perfectionnements aux sacs à lettres et autres.)

Claim.—1st. The combination of the string and metal bar c, and rings d and f, as set forth; 2nd. The reversible wood and leather label, and its combination with the string b, metal bar c, and rings d and f, as set forth.

No. 4436. HENRY J. YOUNG, LANSDOWN, Ont., 27th February, 1875, for 5 years: "Hay-Loader." (Élévateur à foin.)

Claim.—1st. The hinged tail-piece C, in combination with the frame A, and apron F; 2nd. The rake-head M, and arrangement of rake teeth curving under the endless apron in combination with the frame A, and tail-piece C; 3rd. The lever O, for elevating the tail-piece C; 4th. The toothed roller K, for clearing and delivering the hay from the apron R; 5th. The arrangement and combination of the pulleys S, T, U, V, for operating the apron and pulley's W, for driving the rollers K; 6th. The draft frame P, constructed and applied to the frame A, as set forth; 7th. Providing the frame P, with extension legs R, holding the machine in coupling position, as set forth; 8th. The bifurcated draft coupling bar S, applied and used in the manner set forth.

No. 4437. JAMES B. BROWN, Stanstead, Que. 27th February, 1875, for 5 years: "Milk Pan." (Boite à lait.)

Claim.—1st. The vat pan B, having the packing ring d, fitted into the circular box g, in combination with the trough I, and inclined conduit G, as set forth; 2nd. The tapering outlet tube F, made to press outwardly upon the inside of the packing ring d, as set forth.

No. 4438. SALEM T. LAMB, New Albany, Ind., and BENJAMIN F. AVERY, Louisville, Ky., U. S., 27th February, 1875, for 15 years: "Nut Lock Washer." (Rondelle de noix de sureté.)

Claim.—1st. A lock plate washer A, of ductile metal for locking nuts having a series of fingers B, segmentally to the bolt hole C, so that when a finger is raised inclinedly its lateral edge will engage with the edge of the nut; 2nd. In combination with a plate A, having segmental fingers B, or washer E, having lugs f, coinciding with the space between the fingers, as set forth.

No. 4439. SAMUEL L. CROCKER, Taunton, Mass., U. S., 27th February, 1875, for 5 years: "Process for Smelting and Refining Copper Ores, &c." (Procédé de fondage et d'affinage des minerais de cuivre, &c.)

Claim.—The art or process of removing arsenic, antimony and other volatile metals, from copper, in a smelting or refining furnace such being by the employment of zinc, as specified.

No. 4440. LEONARD MYERS and THOMAS ARMSTRONG, Lynder, Ont., 27th February, 1875, for 5 years: "Horse-Shoe Machine." (Machine à fers à chevaux.)

Claim.—1st. The jaws D and E, with block and steel K, as described, with the combination of chain F and treadle H; 2nd. The double arm O, having guide holes for crease and punch formed at the ends and springs T, to raise crease and punch, also stud P, on which arm O rotates, spiral spring Q, and gauge U, as set forth.

No. 4441. RICHARD EATON, Montreal, Que., 27th February, 1875, for 5 years: "Freight Car." (Wagon pour le fret.)

Claim.—1st. A freight car with a single truck B, provided with wheels D, the bearings of each of the said wheels having independent vertical play and springs, and the truck and car secured together by a king bolt E, all combined as described; 2nd. A freight car with a single truck B, provided with six wheels D, and having springs H, interposed between the said truck and the frame work of the car, immediately over the fore and aft wheels of such trucks, the centre pair of wheels having independent vertical play, as described; 3rd. A six wheeled freight car with the bearings of the wheels D, having each independent vertical play and springs H, as described; 4th. The combination in any freight car of the sill I, king post K, with bracket L, and suspension rods M, all with the remainder of the car being constructed and arranged as shown; 5th. A grain or other freight car, provided with a door Q, resting in rabbet or groove P, and held in place by a guard S, so that when the main door is opened the withdrawal of the guard S, will cause the said door Q to be opened by the pressure of the contents of the car, as described; 6th. The ends of the box or enclosure of the same constructed with doors U, folding in or out, as described.

No. 4442. LOUIS A. FRIGON, Montreal, Que., 27th February, 1872, for 5 years: "Spring bed." (Lit à ressort.)

Claim.—1st. The combination of a spring bed bottom A, with reversed conical movable spring B, set in holes bored into the cross-bars c, and having their base end e, bent downwards as set forth; 2nd. The combination of a spring bed-bottom A, and movable springs B, with the frame D, to have a bidet or a straw bed as set forth; 3rd. The combination of a spring bed-bottom A, and movable springs B, with a mattress C, to have an ordinary bed or with a feather bed as set forth; 4th. The combination of a frame D, or a mattress C, with leather straps E, E, to steady them to the frame A, as set forth; 5th. A bed bottom A, having movable springs B, set in holes bored in the cross bars c, for this purpose of being easily taken off in order that either a straw or a feather-bed, or a mattress be put over said bed-bottom A, as set forth.

No. 4443. DAVID R. WINNETT, London, Ont., 27th February, 1875, for 5 years: "Improvements on Oil Stills." (Perfectionnements aux alambics à l'huile.)

Claim.—The vertical tubes D, with intervening spaces F, when arranged in supporting case K, and in combination with oil still A, as set forth.

INDEX OF INVENTIONS.

Bag fastener, A. M. & M. M. Miller..... 4367
 Bed spring, W. Crich..... 4318
 Blinds, scenes &c., apparatus for, H. M. Converse & G. S. Codd..... 4132
 Boot calks, R. D. Guilford..... 4355
 Boot, rubber, last for, I. F. Williams..... 4108
 Boot and shoe latchet loop, (Extension), J. F. Williams..... 4123
 Boot and shoe stiffener, G. Bolvin..... 4331
 Boots and shoes making counters for, H. Rogers & S. Moore..... 4361
 Boots, rubber, I. F. Williams..... 1102
 Bread slicer, M. Ahearn & M. Walsh..... 4372
 Bridges and roofs, trusses for, E. Wasell..... 4379
 Burglar proof safes, J. Taylor..... 4358
 Butter package, C. B. Sheldon..... 4312
 Car coupler, A. Wilson, P. E. Drake & E. M. Law..... 4389
 Car axle box, J. M. Brosius & S. K. Campbell..... 4115
 Car coupler, E. M. Law..... 4386
 Car freight, R. Eaton..... 4411
 Cars, freight, grain cars for, D. F. Van Liew..... 4351
 Chair and cradle, separable, E. Hamburger..... 1112
 Chair, oscillating spring, W. T. Doremus..... 4329
 Chair, oscillating spring, W. T. Doremus..... 4315
 Cigar mould, N. Dubrul..... 4406
 Clothes rack and ironing table, W. C. Arnold..... 4353
 Coke and illuminating gas, manufacture of, J. T. B. Bennett..... 4393
 Collars and cuffs, E. P. Furlong..... 4376
 Cooking stove, combination of, with steam engine, T. Penton..... 1119
 Copper ores, &c., process for smelting and refining, S. L. Crocker..... 4139
 Cradle and chair, separable, E. Hamburger..... 4112
 Cuff and collars, E. P. Furlong..... 4376
 Curry comb, W. E. Lawrence..... 4369
 Door spring, C. W. Sellms & A. A. Stimson..... 4392
 Drum heater, F. Proudfoot..... 1536
 Dumb stove ventilator, J. Lemay dit Delorme..... 4370
 Elevating building materials, J. Conrad & J. H. Fuhlinger Engine, blowing, D. C. Morenci..... 4338
 Eyeletting machine, E. Woodward & E. D. Goodson..... 4377
 Farinaceous substances, method of treating, W. Adamson..... 4399
 Faucet, H. Soffe..... 4317
 Feather duster, S. M. Hibbard..... 4351
 Fence, portable feeding, for pasture fields, J. Alkman..... 4383
 Field roller, H. & J. W. Follott..... 4327
 Fringes, &c., weaving headings for, J. T. O'Brien & C. C. Controll..... 1362
 Fruits, machine for cleaning, P. Williams..... 4350
 Fuel, artificial, D. F. Packer..... 4357
 Furnaces, hot air, T. Irwin..... 4110
 Furnaces, method for promoting the combustion of fuel in, G. A. Jasper..... 4325
 Furnaces, oil burning, apparatus for, C. E. Robinson..... 4356
 Furniture casters, C. B. Sheldon..... 4331
 Game apparatus, E. F. Lane..... 4316
 Gas, illuminating, and coke, manufacture of, F. B. Bennett..... 4393
 Globes, method of mounting and operating, E. E. Fitz..... 4314
 Gold and silver ores, crushed, machine for amalgamating and for separating by washing, substances of different specific gravities, A. Heatherington..... 4361
 Grate, J. B. Larkin..... 1101
 Grate bars for furnaces, S. L. Wiegand..... 1109
 Grate, water circulating and steam generating, W. H. Farris..... 4315
 Gum candy, chewing, C. C. Moore..... 1371
 Harrow, wheel, E. R. Powell & F. C. Kennedy..... 4126
 Hay loader, E. R. Whitney..... 4105
 Hay loader, H. J. Young..... 4136
 Heating apparatus, L. Satterlee..... 4333
 Heating drum, M. Hutchinson..... 1128
 Hoe, spring, R. Sylvester..... 4321
 Holtways, W. Muir..... 4375
 Horse powers, J. G. & R. F. Taylor..... 4387
 Horse shoe blank rolling machine, W. W. Lewis & J. Michell..... 4388
 Horse shoe machine, L. Myers & T. Armstrong..... 1110
 Ice breaking boat, C. Schaal & C. Bauer..... 1310
 Iron and other ores, smelting of, E. H. Aydon, & E. Field..... 4139
 Ironing table and clothes rack, W. C. Arnold..... 4353
 Lock and key guard, I. Kluney..... 4330
 Mail or other bags, J. Dewe..... 1135
 Meat chopping tray, L. Kimball, Jr..... 4332
 Milk pan, G. McEwen & C. O. Gibson..... 4330
 Milk pan, J. B. Brown..... 4137

Mirror, J. Grist, Jr..... 4118
 Motor, P. Beaudry & G. A. Choquette..... 4131
 Netting for fishing, &c., machine for making, B. Arnold, W. E., W. J., P. & J. E. Hooper..... 4398
 Nut lock, F. L. Bates..... 4425
 Nut lock washer, S. T. Lamb, & B. J. Avery..... 4381
 Nuts, method of locking and unlocking, C. Levey & W. Myles..... 4319
 Oil still, D. R. Winnett..... 1113
 Ox bow fastener and guard, G. B. Tinker..... 1337
 Palls, &c., ball fastening tor, P. Miles..... 4365
 Paper stock, machine for grinding wood for, B. F. Barker..... 1368
 Picture frames, hanger for, S. Dobbs & W. M. Brayton..... 4101
 Plane guide, W. S. Shippe..... 4317
 Plane iron adjustment, W. Johnston & W. W. Robertson..... 4131
 Planers, saw mills, &c., carriage movement of, W. Lamb..... 4359
 Plough, gang, B. Waggoner..... 1121
 Printers' luting roller, composition for, J. H. Osgood..... 4421
 Pump, measuring, for drawing oil from cans, J. G. Evenden & F. C. Wilson..... 4363
 Punching machine for washers, &c., L. H. Young..... 4100
 Railway car coupling, E. C. Scarlett..... 4322
 " train brake, A. F. Gue & J. M. Kelly..... 4360
 " waggon coupler, L. & A. Dion..... 4319
 Roofs and bridges, trusses for, E. Wasell..... 4379
 Saw, circular, carriage, A. Rodgers..... 4418
 " fret, frame for, O. Evans..... 4330
 " mills, gang, A. Rodgers..... 4329
 " mills, planers, &c., carriage movement of, W. Lamb..... 4359
 Sewing machine, L. M. Becker..... 4120
 " for bags, &c., H. P. Garland & A. J. Gore..... 4335
 " machines, leaf supporter for, J. F. Webster..... 1320
 " over head, G. Lalug..... 4390
 Shoe last, felt, C. E. Meyer..... 4311
 " (extension), J. K. Feleks..... 4316
 Shoes, wooden, A. Edwards..... 4378
 Silver and gold ores, crushed, machine for amalgamating, and for separating by washing substances of different specific gravities, A. Heatherington..... 4361
 Slicing machine, F. Wittner..... 1373
 Smoke and spark conveyer for locomotives, T. De Codezo..... 1107
 Speed motion, G. T. D. Barnjum & W. F. Dial..... 1371
 Spring bed, L. A. Filson..... 4112
 Steam engine, T. A. Risher..... 4384
 " " combination of, with cooking stove, F. Penton..... 4119
 " or water motor, R. H. Atwell..... 4321
 Steel tempering oven, W. Stephenson..... 4111
 Stove pipe, damper, and spark arrester, H. Harris..... 1397
 " pipes, radiator and damper for, O. Baldwin..... 1385
 Straw cutter, D. S. Cornell, & E. B. White..... 4417
 Street lanterns, J. M. Bruce, M. M. Heath & G. E. Underwood..... 4111
 Table folding, F. C. Porter..... 4391
 Threshing machine, grain separator of, J. Haggert & D. Brown..... 1352
 Tire tightener, F. Kent..... 4493
 " upsetting machine, T. Sullivan..... 4116
 Tobacco, chewing, preparing plug, T. C. Williams..... 4311
 " plug, T. C. Williams..... 4313
 Valve, cushion seated, steam, air, and hydraulic, T. Shaw..... 4396
 Waggon spring, J. Carpenter..... 4395
 Wash boiler, J. C. Tilton..... 4391
 Watchman's patrol register, S. J. Wright & A. H. Wood..... 4323
 Water meters applicable to motors, J. Lewis..... 4328
 " or steam motor, R. H. Atwell..... 1324
 " wheel, C. H. Parker..... 1366
 Wax thread heating machine, W. J. Garton & W. Ward..... 1127
 Window fastening machine, J. B. Tison..... 4133
 Yoke, Iron neck, B. Waggoner..... 4122

INDEX OF PATENTEEES.

Adamson, W., (assignee), method of treating farinaceous substances..... 4399
 Ahearn, Maurice, & M. Walsh, bread slicer..... 4372
 Alkman, John, portable feeding fence for pasture fields..... 4383
 Armstrong, Thomas & L. Myers, horse shoe machine..... 4410
 Arnold, Benjamin, W. E., W. J., T. & J. E. Hooper, machine for making netting for fishing, &c..... 4398
 Arnold, William C., ironing table and clothes rack..... 4353
 Atwell, Richard H., motor for steam or water..... 4321
 Avery, Benjamin F., & S. T. Lamb, nut lock washer..... 4138
 Aydon, Emoch H., & E. Field, smelting iron and other ores..... 4130
 Baldwin, Oren, radiator and damper for stove pipes..... 4385
 Bauer, Conrad, & C. Schaal, ice breaking boat..... 1310

Barker, B. F., machine for grinding wood for paper stock.	4308	Lamb, Willard, carriage movement of saw mill planers &c.	1359
Barri jun, George T. D., & W. T. Dial, speed motion	4371	Lane, Ebenezer F., game apparatus	4316
Bates, Flints L., nut lock	4125	Larkin, John B., grates	4104
Beaudry, Philippe & G. A. Choquette, motor	4131	Law, Edward M., car coupler	4336
Becker, Lewis M., sewing machine	4120	“ “ A. Willson & P. E. Drake, car coupler	4339
Bennett, J. T. B., manufacture of coke & illuminating gas	4393	Lawrence, William E., curry comb	4309
Bolvin, Guillaume, boot and shoe fastener	4331	Levey, Charles, & W. Myles, locking and unlocking nuts	4349
Brayton, W. M., & S. Dobbs, hanger for picture frames	4401	Lewis, Joseph, water meters applicable to motors	4328
Brosius, John M., & S. K. Campbell, car axle box	4415	Lewis, William W., & J. Mitchell, horse shoe blank rolling machine	4388
Brown, David, & J. Haggert, grain separator of thrashing machines	4352	McEwan, George & C. O. Gibson, milk pan	4339
Brown, James B., milk pan	4437	Miles, Patches, ball fastening for palls, &c	4365
Bruce, John M., M. M. Heath & G. E. Underwood, street lanterns	4111	Miller, Asher M. & Marshall M., bag fastener	4307
Campbell, Samuel K., & J. M. Brosius, car axle box	4415	Mitchell, John, & W. W. Lewis, horse shoe blank rolling machine	4388
Carpenter, John, wagon spring	4395	Moore, Charles C., chewing gum candy	4374
Choquette, Gilbert A., & P. Beaudry, motor	4131	Moore, S., & H. Rogers, counters for boots and shoes	4361
Codd, George S., & H. M. Converse, apparatus for blinds, scenes, &c.	4332	Morend, David C., blowing engine	4338
Conrad, Jacob, & J. H. Fahringer, elevating building materials	4326	Moyer, Cyrus E., felt shoe last	4314
Contrell, Charles C., & J. T. O'Brien, weaving heading for fringes, &c.	4362	Mufr, William, holstways	4375
Converse, Henry M., & G. S. Codd, apparatus for blinds, scenes, &c	4362	Myers, Leonard, & F. Armstrong, horse shoe machine	4440
Corpell, David S., & E. B. White, straw cutters	4117	Myles, W., & C. Levey, locking and unlocking nuts	4819
Crieh, William, spring bed	4318	O'Brien, John T., & C. C. Contrell, weaving headings for fringes, &c.	4362
Crocker, Samuel L., process for smelting and retuling copper ores, &c.	4439	Osgood, Joseph H., composition for printer'sinking roller	4421
De Codezo, Thomas, smoke and spark conveyer for locomotives	4407	Packer, Daniel F., artificial fuel	4357
Dewe, John, mail or other bags	4135	Parker, Carlos H., water wheel	4366
Dial, Wilbur F., & G. T. D. Barnjum, speed motion	4371	Penton, Thomas, combination of steam engine with cooking stove	4419
Deforme, Joseph Lemay dit, dumb stove ventilator	4370	Porter, Frank C., folding table	4391
Dion, Louis & Arthur, railway wagon coupler	4319	Powell, Edwin R., & F. C. Kennedy, wheel harrow	4426
Dobbs, S., & W. M. Brayton, hanger for picture frames	4401	Proudford, Frederick, drum heater	4336
Doremus, William T., oscillating spring chair	4329	Risher, Thomas A., steam engine	4381
Drake, Prince F., A. Wilson, & E. M. Law, car coupler	4389	Robertson, William W., & W. Johnston, plane iron adjustment	4431
Dubuit, Napoleon, cigar mould	4106	Robinson, Charles E., apparatus for oil burning furnaces	4356
Eaton, Richard, freight car	4441	Rodgers, Alexander, circular saw carriage	4418
Edwards, Alfred, wooden shoes	4378	“ “ gang saw mills	4429
Evans, Owen, fret saw frame	4380	Rogers, H., & S. Moore, counters for boots and shoes	4361
Evenden, John G., & F. Cortez Wilson, measuring pump for drawing oil from cans	4363	Satterlee, Lelroy, heating apparatus	4333
Fahringer, Jerry H., & Jacob Conrad, elevating building materials	4326	Scarlett, Edward C., railway car coupling	4322
Farris, William H., water circulating and steam generating grate	4318	Schaal, Christoph, & C. Baner, ice breaking boat	4310
Felcks, Joseph K., felt shoe last	4315	Schuns, Charles W., & A. A. Stinson, door spring	4392
Field, E., & E. H. Aydon, smelting iron and other ores	4430	Shaw, T., steam, air and hydraulic cushion seated valve	4396
Flitz, Ella E., method of mounting and operating globes	4341	Sheldon, Cevendra B., butter package	4342
Follott, Henry & Jonathan W., field roller	4327	“ “ furniture castor	4331
Frlgon, Louis A., spring bed	4442	Shippe, Walter S., plane guide	4347
Furlong, Edward P., collars and cuffs	4376	Soife, Henry, faucet	4317
Garland, H. P., & A. J. Gore, sewing machine for bags, &c.	4335	Stephenson, William, steel tempering oven	4411
Garton, William J., & W. W. Ward, wax thread heating machine	4127	Stinson, Ashbel A., & C. W. Selinus, door spring	4392
Gibson, Charles O., & G. McEwan, milk pan	4339	Sullivan, Thomas, tire upsetting machine	4416
Gore, A. J., & H. P. Garland, sewing machine for bags, &c.	4413	Sylvester, Richard, spring hoe	4321
Grist, John, jr., mirror	4113	Taylor, James, burglar proof safes	4358
Gue, Albert F., & J. M. Kelly, railway train brake	4360	Taylor, James G. & Henry F., horse powers	4387
Gullford, Rufus D., boot calks	4355	Tilton, Joseph C., wash boiler	4391
Haggert, John, & D. Brown, grain separator of thrashing machines	4352	Tinker, George B., ox bow fastener and guard	4337
Hambuyer, Ephraim, separable chair and cradle	4412	Tison, Jean B., (assignee) window fastening machine	4433
Harris, Hezekiah, stove pipe damper and spark arrester	1397	Underwood, George E., J. M. Bruce & M. N. Heath, street lanterns	4114
Heath, Massena M., J. M. Bruce & G. E. Underwood, street lanterns	4411	Van Liew, Dennis F., grain door for freight cars	4354
Heatherington, Alexander, machine for amalgamating crushed ores of gold and silver and for separating, by washing, substances of different specific gravities	4364	Waggoner, Benjamin, gang plough	4421
Hibbard, Susan M., feather duster	4351	“ “ iron neck yoke	4422
Hooper, William E., William J., Theodore & James E. & B. Arnold, machine for making netting for fishing, &c.	4398	Walsh, Maurice, & M. Ahearn, bread slicer	4372
Hutchinson, Moses, heating drum	4428	Ward, W., & W. J. Garton, wax thread heating machine	4427
Irwin, Thomas, hot air furnaces	4410	Wasell, Edward, trusses for bridges and roofs	4379
Jasper, Gustavus A., method for promoting the combustion of fuel in furnaces	4325	Webster, James F., leaf supporter for sewing machines	4320
Johnston, William, & W. W. Robertson, plane iron adjustment	4431	White, Eli B., & D. G. Cornell, straw cutter	4417
Kelly, James M., & A. F. Gue, railway train brake	4360	Whitney, Edwin R., hay loader	4405
Kennedy, Frederick C., & E. R. Powell, wheel harrow	4426	Wiegand, S. Lloyd, grate bars for furnaces	4400
Kent, Frederick, tire tightener	1103	Williams, Isaac F., rubber boots	4402
Kimball, Lewis, jr., meat chopping tray	4352	“ “ rubber boot last	4408
Kinney, Israel, lock and key guard	4330	“ James F., boot and shoe later et loop	4423
King, James, overhead sewing machines	4390	“ Philip, machine for cleaning fruits	4350
Lamb, Salem T., & B. F. Avery, nut lock and washer	4381	“ Thomas C., preparing plug chewing tobacco	4341
“ “ “ nut lock washer	1138	“ “ plug tobacco	4443
		Wilson, Alfred, P. E. Drake & E. M. Law, car coupler	4389
		Wilson, F. Cortez, & J. G. Evenden, measuring pump for drawing oil from cans	4363
		Winnett, David R., oil still	4443
		Wiltner, Tobias, slicing machine	4373
		Wood, Albert, & S. J. Wright, watchmen's patrol register	4323
		Woodward, Erastus, & E. D. Goodson, cycling machine	4377
		Wright, Sylvester J., & A. Wood, watchmen's patrol register	4328
		Young, Henry J., hay loader	4436
		“ Levi H., punching machines for washers, &c.	4400

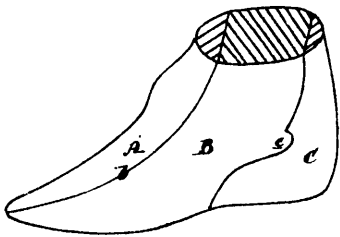
THE CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

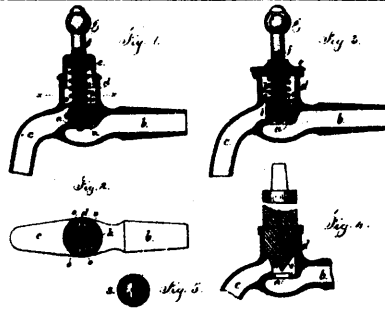
Vol. III.

APRIL, 1875.

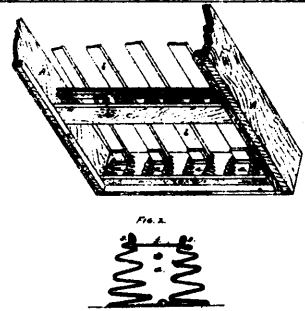
No. 4.



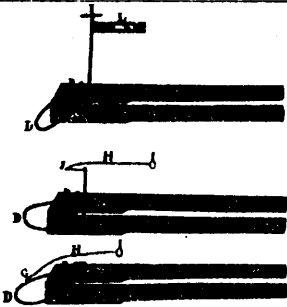
4314 Meyer's Felt Shoe Last.



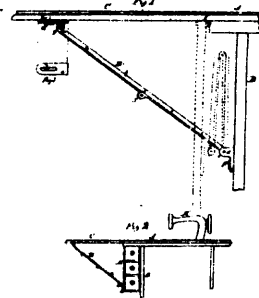
4317 Seffe's Improvements on Faucets.



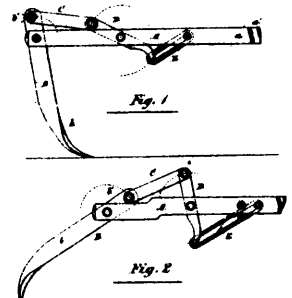
4318 Crich's Spring Bed.



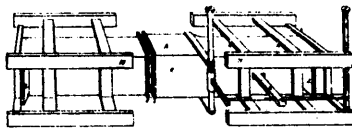
4319 Dion's Railway Wagon Coupler.



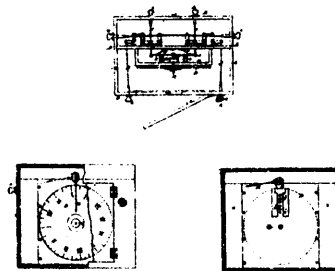
4320 Webster's Leaf-supporter for Sewing Machines.



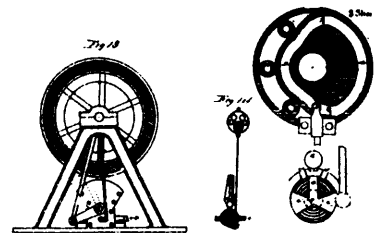
4321 Sylvester's Spring Hoe.



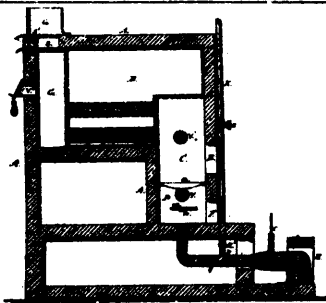
4322 Scarlett's Car-coupling.



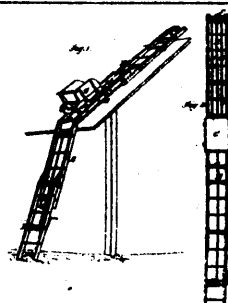
4323 Wright & Wood's Improvements on Watchmen's Patrol Registers.



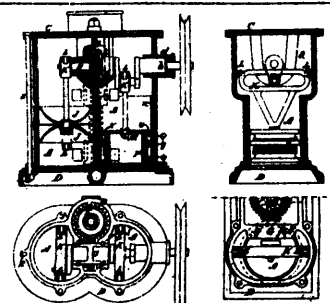
4324 Atwell's Motor for Steam or Water.



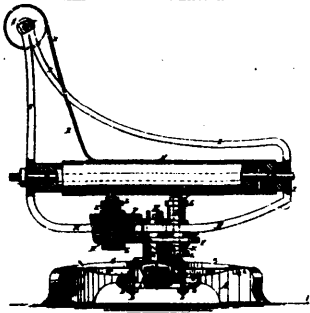
4325 Jasper's Method for Promoting the Combustion of Fuel in Furnaces.



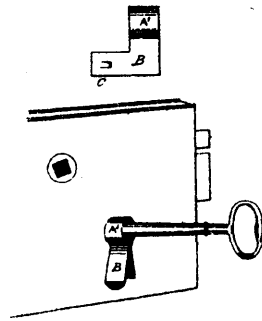
4326 Conrad & Fahringer's Apparatus for Elevating Building Material.



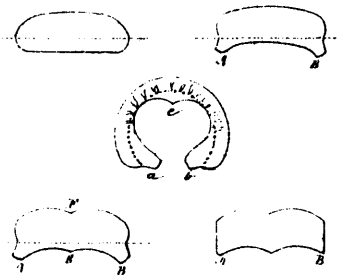
4328 Lewis' Improvements on Water Meters, applicable to Motors.



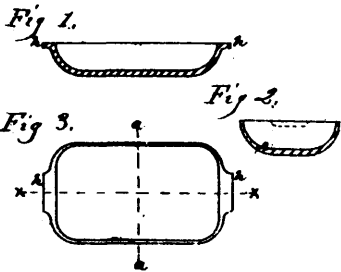
4329 Doremus' Oscillating Spring Chair.



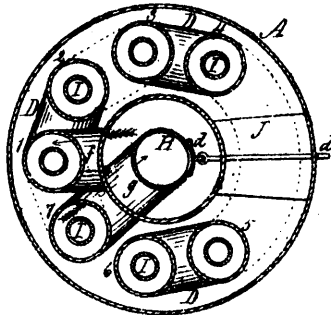
4330 Kinney's Lock and Key Guard.



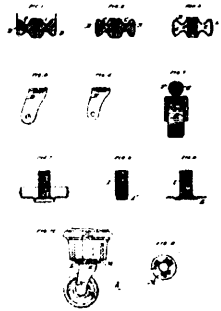
4331 Boivin's Boot and Shoe Stiffener.



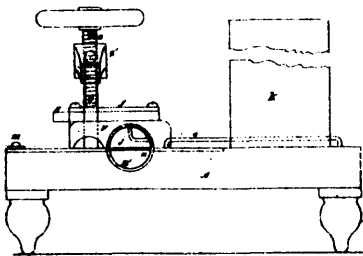
4332 Kimball's Meat Chopping Tray.



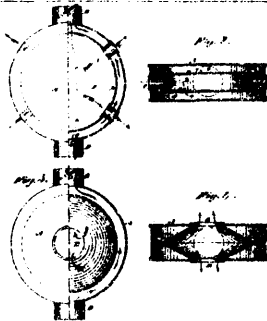
4333 Le Roy Satterlee's Heating Apparatus.



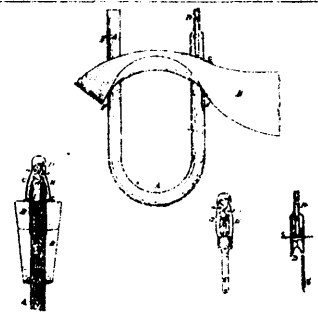
4334 Sheldon's Improvements on Furniture Castors.



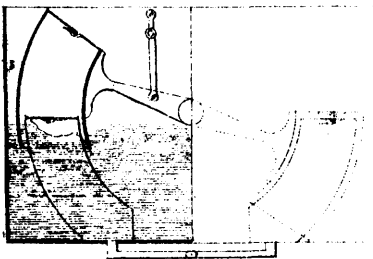
4335 Garland & Gore's Sewing Machine for Bags.



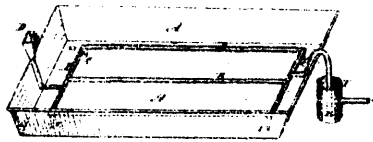
4336 Proudfoot's Drum heater.



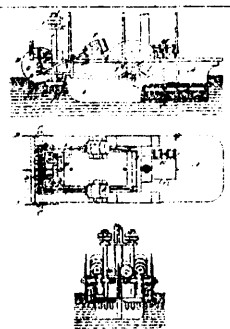
4337 Bacon's Ox Bow Fastener and Guard.



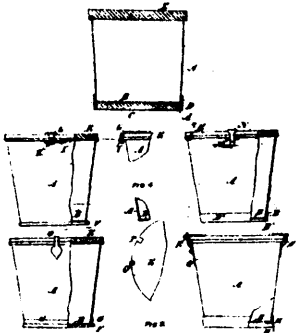
4338 Moreno's Blowing Engine.



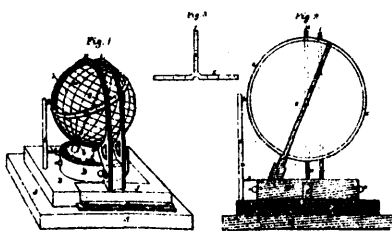
4339 Batchelder's Milk pan.



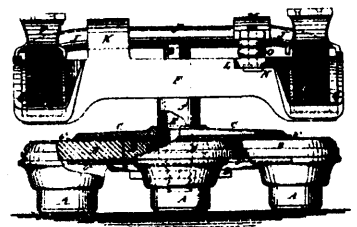
4340 Schaal & Baner's Ice Breaking Boat.



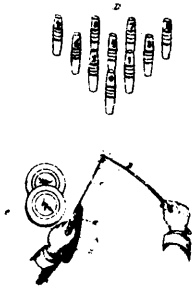
4342 Sheldon's Butter Package.



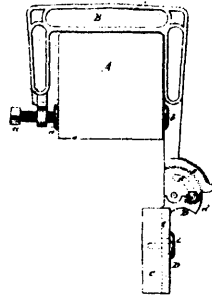
4344 Fitz's Method of Mounting and Operating Globes.



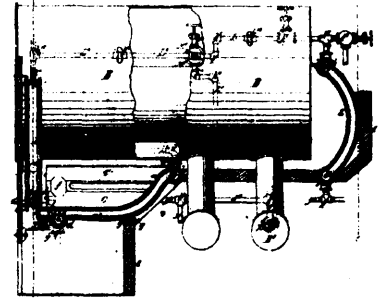
4345 Doremus' Oscillating Spring Chair.



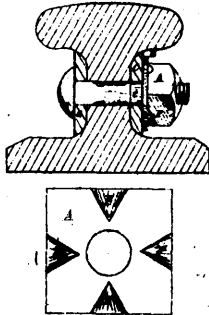
4346 Lane's Improvements on Game Apparatus.



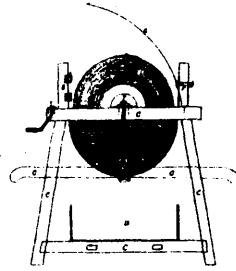
4347 Shipe's Plane Guide.



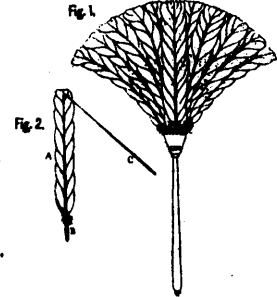
4348 Faaris' Water Circulating and Steam Generating Grate.



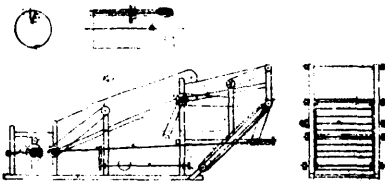
4349 Levey & Myles' Method of Locking and Unlocking Nuts.



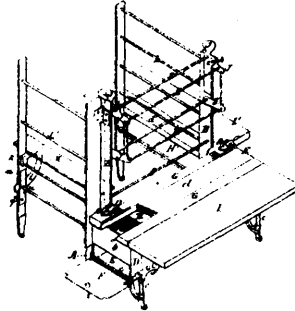
4350 Williams' Machine for Cleaning Fruits.



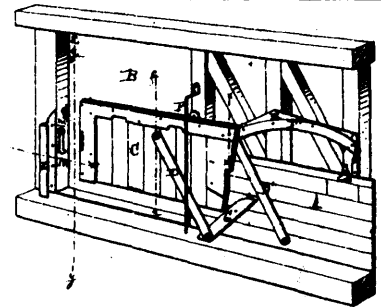
4351 Hibbard's Feather Duster.



4352 Haggert & Brown's Improvements in the Grain Separator of Thrashing Machines.



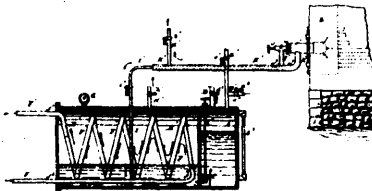
4353 Arnold's Ironing Table and Clothes Rack.



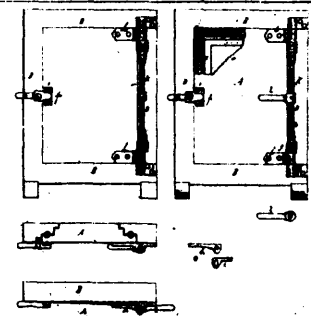
4354 Van Liew's Grain Door for Freight Cars.



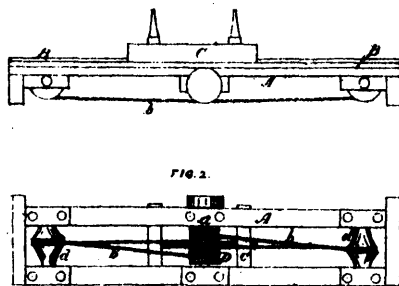
4355 Guilford's Boots-calks.



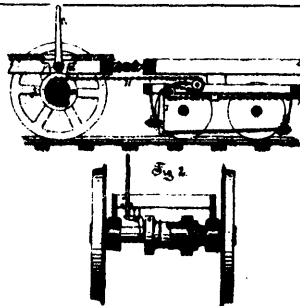
4356 Robinson's Apparatus for Oil Burning Furnaces.



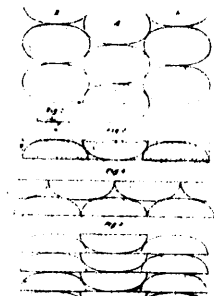
4358 Taylor's Improvements on Burglar Proof Safes.



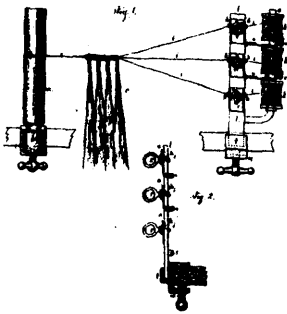
4359 Lamb's Improvements on Carriage Movement of Saw Mills, Planers or other Machines.



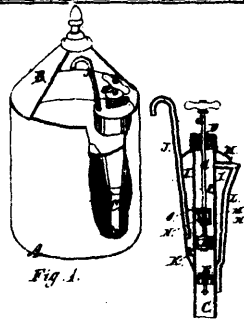
4360 Gue & Keiley's Railway Train Brake.



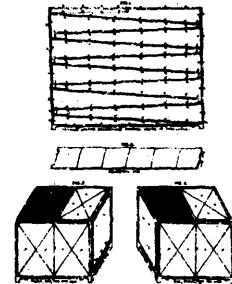
4361 Rogers & Moore's Process of Making Counters for Boots and Shoes.



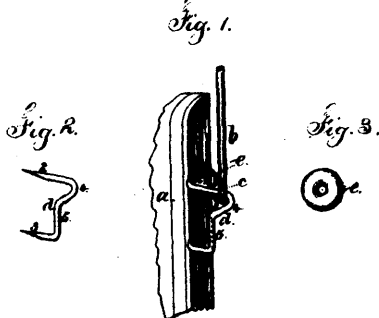
4362 O'Brien & Contrell's Apparatus for Weaving Headings for Fringes, &c.



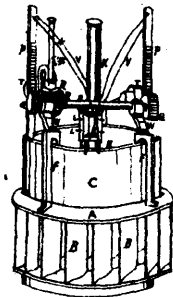
4363 Measuring Pump for Drawing Oil from Cans.



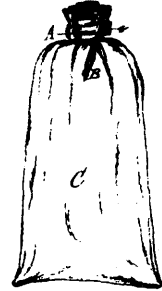
4364 Heatherington's Machine for Amalgamating Crushed Ores of Gold and Silver, and for Separating, by Washing, Substances of Different Specific Gravities.



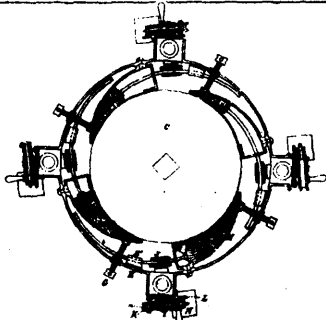
4365 Milks' Bail Fastening for Pails, &c.



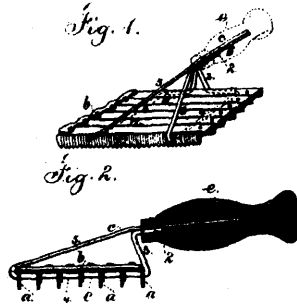
4366 Parker's Water-wheel.



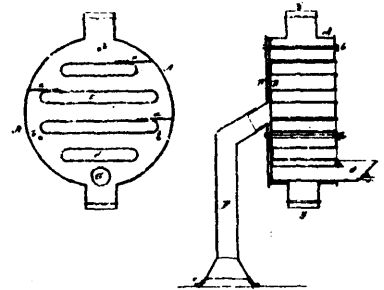
4367 Miller's Bag-fastener.



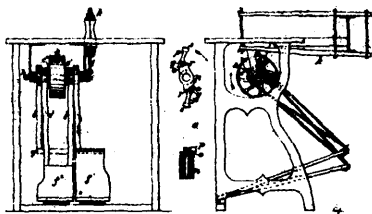
4368 Barker's Improvements on Machines for Grinding Wood for Paper Stock.



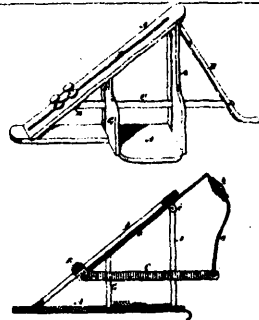
4369 Lawrence's Curry Comb.



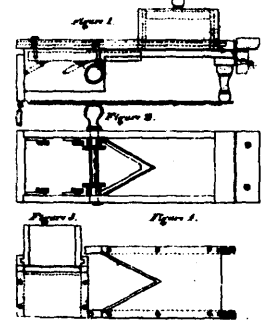
4370 Delorme's Dumb-stove Ventilator.



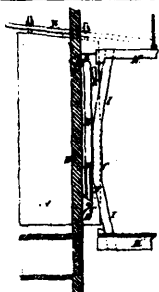
4371 Barnjum & Dial's Speed Motion.



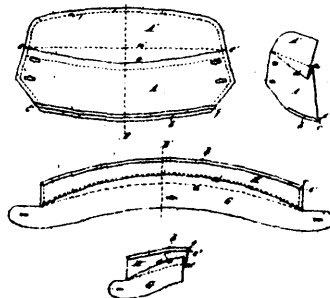
4372 Ahearn's Bread Slicer.



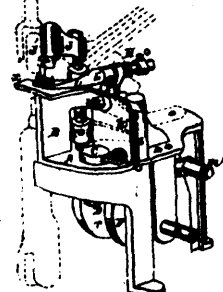
4373 Witmer's Slicing Machine.



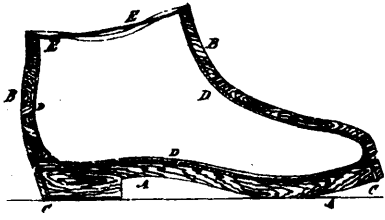
4375 Muir's Improvements on Hoistways.



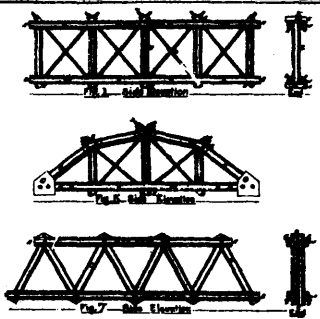
4376 Furlong's Improvements on Collars and Cuffs.



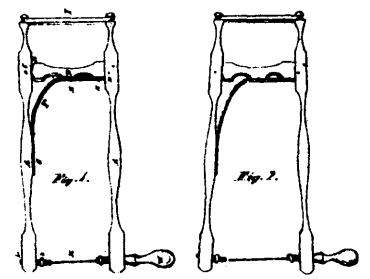
4377 Woodward & Goodson's Eyeletting Machine.



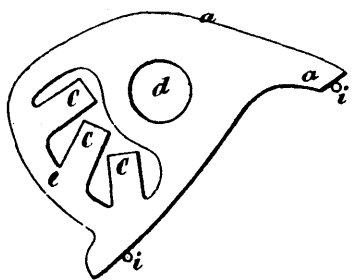
4378 Edwards' Improvements on Wooden Shoes.



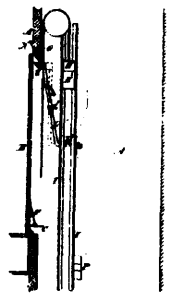
4379 Wasell's Improvements in Trusses for Bridges and Roofs.



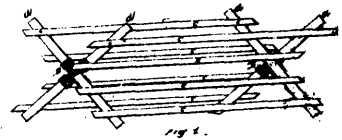
4380 Evans' Fret Saw-frame.



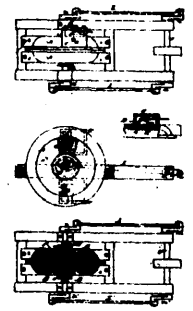
4381 Lamb & Avery's Nut-lock and Washer.



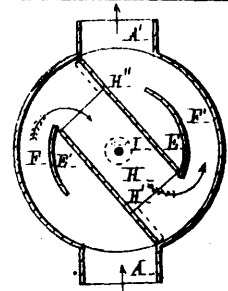
4382 Muir's Improvements on Hoistways.



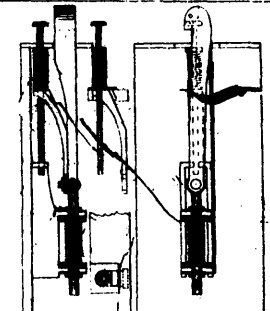
4383 Aikman's Portable Feeding-fence for Pasture Fields.



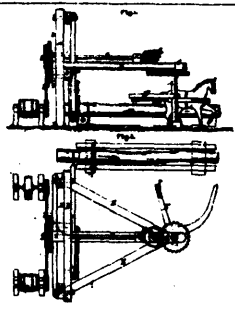
4384 Risher's Steam Engine.



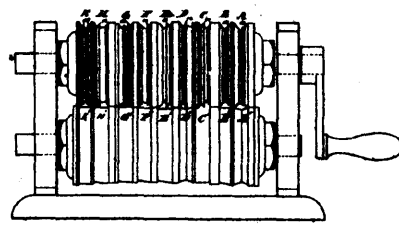
4385 Baldwin's Combined Radiator and Damper for Stove-pipes, &c.



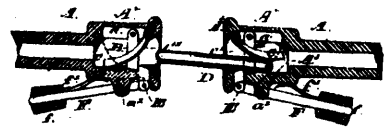
4386 Law's Improvements in the Millar Car-coupler.



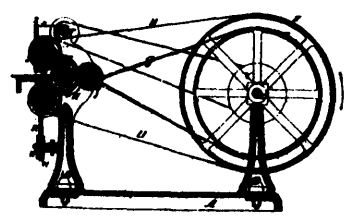
4387 Taylor's Improvements on Horse-powers.



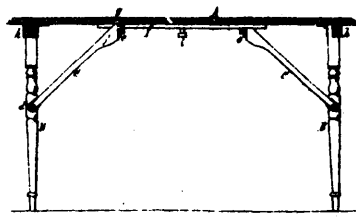
4388 Lewis & Mitchell's Horse-shoe Blank Rolling Machine.



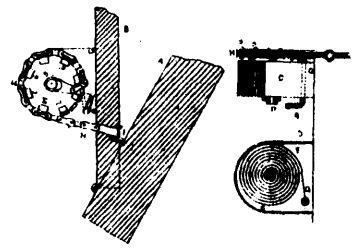
4389 Willson & Law's Car-coupler.



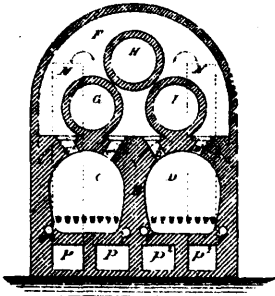
4390 Laing's Improvements on Overhead Sewing Machine.



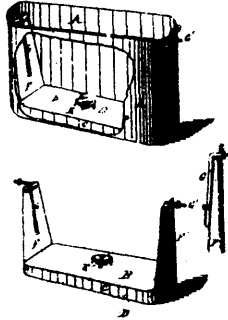
4391 Weggoner's Folding Table.



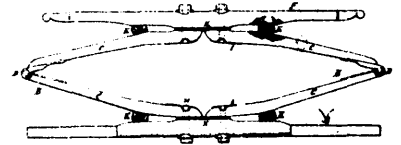
4392 Selins & Stimson's Door Spring.



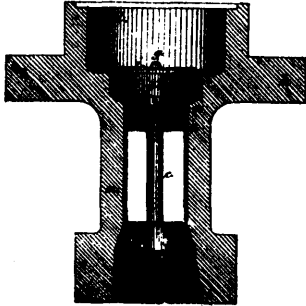
4393 Bennett's Manufacture of Coke and Illuminating Gas.



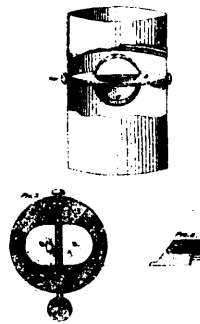
4394 Tilton's Wash Boiler.



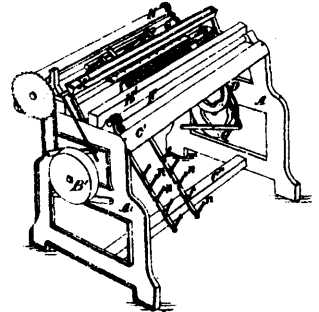
4395 Carpenter's Waggon Spring.



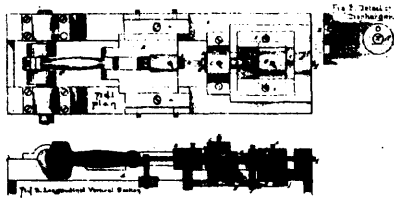
4396 Shaw's Steam, Air and Hydraulic Cushion Seated Valve.



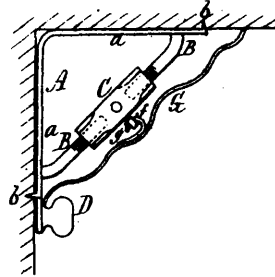
4397 Harris' Stove-pipe Damper and Spark-Arrater.



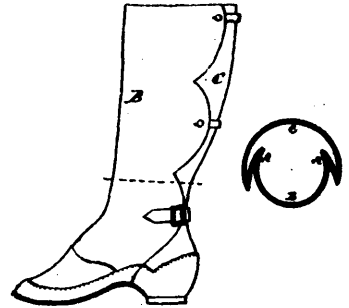
4398 Arnold & Hooper's Machine for Making Netting for Fishing and other purposes.



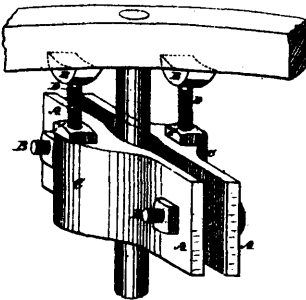
4400 Young's Punching Machine for Washers, &c.



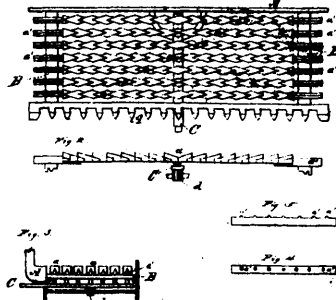
4401 Dobbs & Brayton's Hanger for Picture Frames.



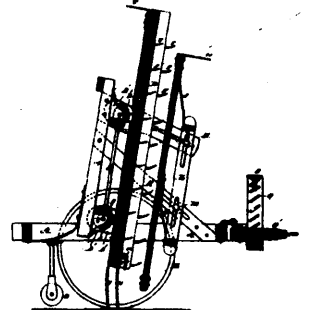
4402 Williams' Rubber Boots.



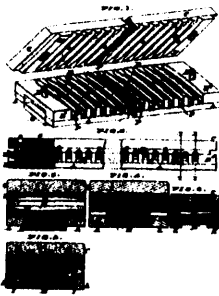
4403 Kent's Tire-tightener.



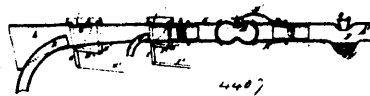
4404 Larkin's Improvements on Grates.



4405 Whitney's Hay-loader.



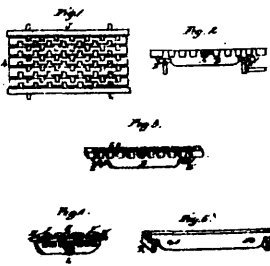
4406 Dubrul's Cigar Mould.



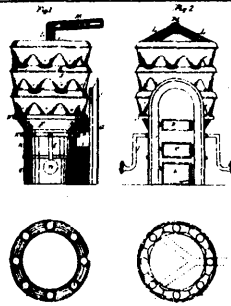
4407 De Codazo's Smoke and Spark Conveyer for Locomotives.



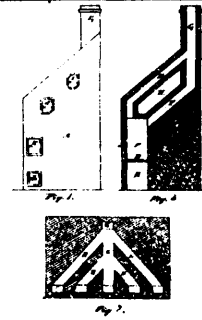
4408 Williams' Rubber Boot Last.



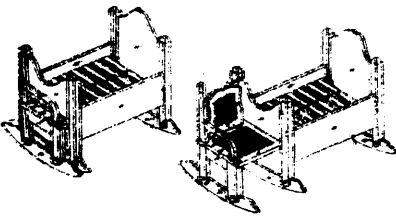
4409 Wiegand's Improvements on Grate Bars for Furnaces.



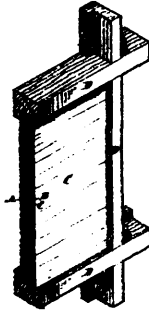
4410 Irwin's Improvements on Hot Air Furnaces.



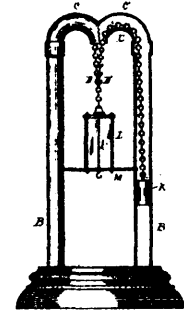
4411 Stephenson's Steel Tempering Oven.



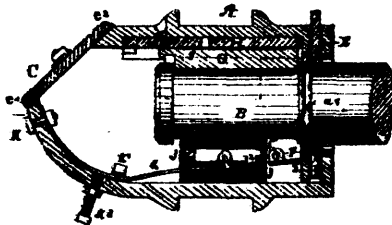
4412 Hainbuejer's Separable Chair and Cradle.



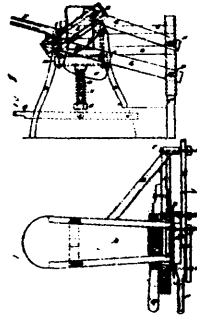
4413 Huber's Improvement on Mirrors.



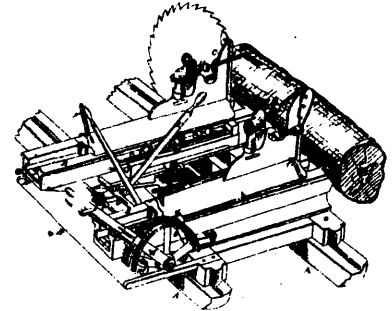
4414 Bruce, Heath & Underwood's Improvements on Street Lanterns.



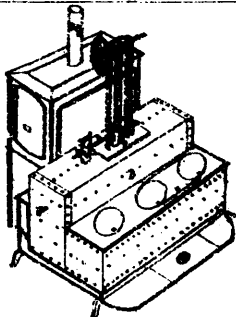
4415 Brosius & Campbell's Car Axle Box.



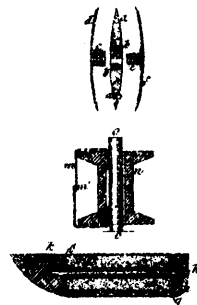
4417 Cornell & White's Straw-cutter.



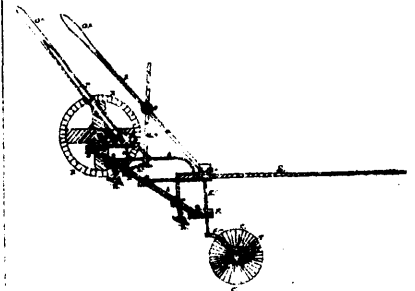
4418 Rodgers' Circular-saw Carriage.



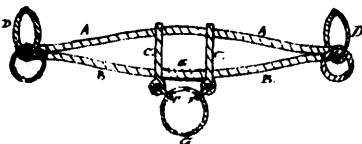
4419 Penton's Combination of a Steam Engine with a Cooking Stove.



4420 Becker's Improvements on Sewing Machine.



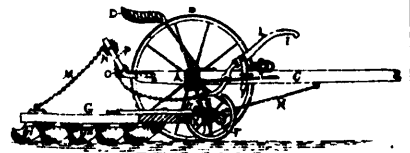
4421 Waggoner's Improvements on Gang Ploughs.



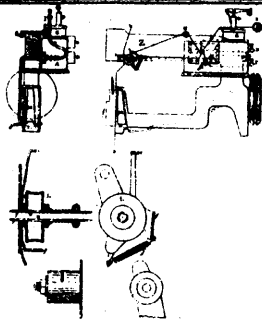
4422 Waggoner's Iron Neck Yoke.



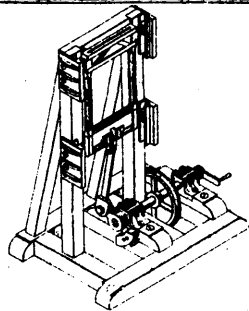
4425 Bates' Nut-lock.



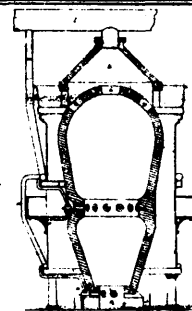
4426 Powell & Kennedy's Wheel-harrow.



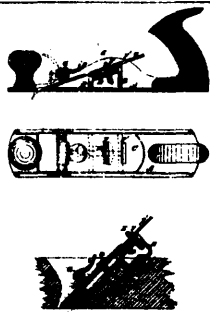
4427 Garton & Ward's Wax Thread Heating Machine.



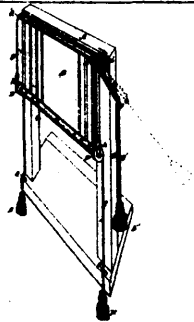
4429 Rodgers' Improvements in Gang Saw-mills.



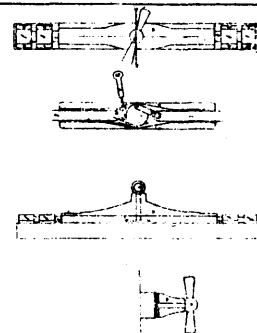
4430 Aydon & Field's Improvements in the Smelting of Iron and other Ores, &c.



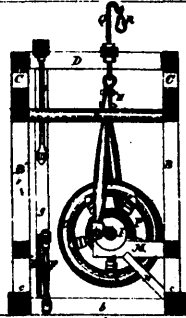
4431 Johnstone & Robertson's Plane Iron Adjustment.



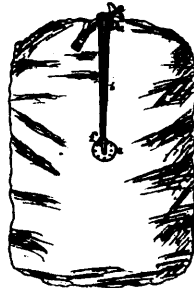
4432 Converse & Codd's Apparatus for Blinds, Scenes, &c.



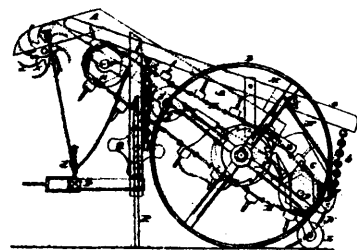
4433 Jay's Window Fastening Machine.



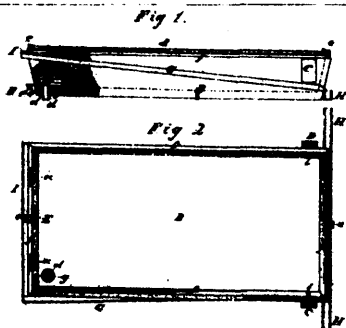
4434 Beaudry & Choquette's Improvements on Motors.



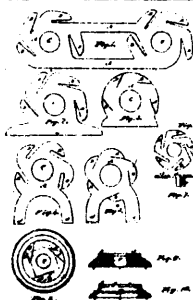
4435 Dewe's Improvements on Mail or other Bags.



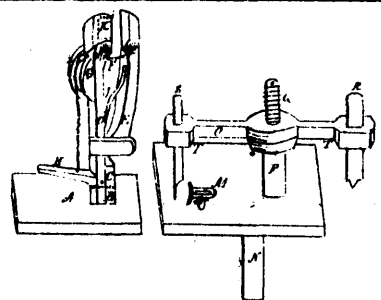
4436 Young's Hay-loader.



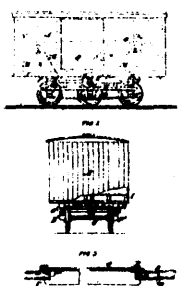
4437 Brown's Milk Pan.



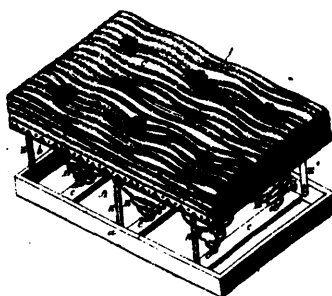
4438 Lamb & Avery's Nut Lock Washer.



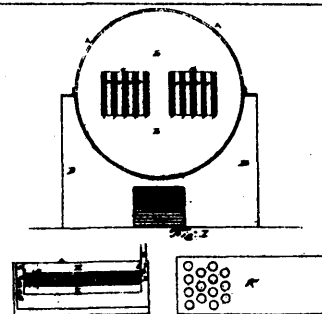
4440 Myers & Armstrong's Horse-shoe Machine.



4441 Eaton's Freight Car.



4442 Frigon's Spring Bed.



4443 Winnett's Improvement on Oil Sills.