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The Canadian Patent Office

RECORD

Vol. IX—No. 4.

APRIL, 1881.

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

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INVENTIONS PATENTED.

No. 12,365. Improvements on Spring Mat-trasses. (*Perfectionnements aux sommiers elastiques.*)

Henry B. Clark, Toronto, Ont., 16th February, 1881; for 5 years.

Claim.—The spiral spring X together with the braces A A, in connection with the head and foot rests D.

No. 12,366. Improvements on Vehicles. (*Perfectionnements aux voitures.*)

Mannuel Jasper, Walkerton, Ont., 16th February, 1881; for 5 years.

Claim.—The metal head block A having oil eye D and flange H cast on to the block A, the whole combined.

No. 12,367. Improvements in Electro-Nerv-ous Belts. (*Perfectionnements aux cein-tures electro-nervales.*)

William C. Bantam, Port Rowan, Ont., 16th February, 1881; for 5 years.

Claim.—1st. An electric belt band or pad filled with and composed of a compound of blue vitriol and sugar of lead, the same being mixed with lard or its equivalent substance.

No. 12,368. Improvements on Harness Pads. (*Perfectionnements aux coussinets des harnais.*)

Edward R. Jones, Chemung, N.Y., U.S., 16th February, 1881; for 5 years.

Claim.—1st. A harness pad composed of one or more layers of felting, an exterior covering of waterproof leather, or oilcloth, and an interior covering of canvas or oil-cloth coated with a compound of lead put, oil and carbolic acid, forming a soft, flexible and remedial bearing.

No. 12,369. Improvements on Force Pumps. (*Perfectionnements aux pompes foulantes.*)

William A. Bickford, Minneapolis, Min., U. S., 16th February, 1881; for 5 years.

Claim.—1st. A hollow post G having the air chamber N on top, and the apertures P below, in connection with the cylinder A. 2nd. The packing and valve f, made in one piece, hinged at the top in connection with the posts f in cylinders. 3rd. The perforated plates M in connection with the central disc O and packing L, forming the water space K in the piston.

No. 12,370. Improvements on Waggon Jacks. (*Perfectionnements aux chèvres de carrosserie.*)

William M. Willcox, Port Perry, (Assignee of John S. M. Willcox, Whitby,) Ont., 16th January, 1881; for 5 years.

Claim.—1st. The combination of the semi-circular headed handle B with the chain F. 2nd. The use of pin E working in the grooves cut in the jack A. 3rd. The combination of the dog C with the spring D and pin J, and the notches cut in the lower end of the jack A, also the use of the projecting cleat at the bottom of the jack, to form a foot.

No. 12,371. Improvements on the Process of Preserving Alimentary Sub-stances. (*Perfectionnements aux procedes de conserves alimentaires.*)

Thomas F. Wilkins, London, Eng., 16th February, 1881; for 5 years.

Claim.—1st. The process of preserving alimentary substances by first

treating them with an antiseptic and afterwards coating them with un-crystallized hydro-carbon. 2nd. The process of preserving alimentary sub-stances by coating them with uncrystallized hydro-carbon.

No. 12,372. Improvements in Moulds for Forming Plastic Materials. (*Perfectionnements aux moules à modeler les matieres plastiques.*)

James F. Barnard and Samuel Briggs, Hamilton, Ont., 16th February, 1881; for 5 years.

Claim.—1st. The combination, with a mould B C D, of the annular disc E under the cover D, the same being detached from said cover or cast with it. 2nd. The combination of the plate B, rim C, cover D, lining H, disc E, bolts and nuts A, to form a mould.

No. 12,373. Knife Polishing Powder. (*Poudre pour nettoyer la coutellerie.*)

George T. Stickells, Toronto, Ont., 17th February, 1881; (Extension of Patent No. 5,715.)

No. 12,374. Improvements on Hay Process. (*Perfectionnements aux presses de foin.*)

Elonild Duplessis, St. John, Que., 18th February, 1881; for 5 years.

Claim.—1st. The oscillating pendant levers G combined with the toggle joint levers B having gears at their inner ends, and provided with the metal envelopes B₃ furnished with pulleys H, and attached to the lower ends of the oscillating pendant levers G. 2nd. The metal envelope B₃ attached to the oscillating pendant levers G at one end, and at a middle or centre to lower end of the toggle joint levers B, and provided at the other end with the pulleys H and ropes B₄. 3rd. The toggle joint levers B with gears B₁ at one end, and the metal envelope B₃, at the other end, and provided with blocks H and pivoted to the oscillating pendant levers G. 4th. The metal envelope B₃ pivoted to the oscillating pendant levers G, and provided with pulleys H and ropes B₄.

No. 12,375. Machine for Thrashing and Sepa-rating Grain. (*Machine à battre et separer les grains.*)

John H. Edward, St. Paul, Min., U.S., 18th February, 1881; (re-issue of Patent No. 7,442.)

Claim.—1st. A mounted thrasher and adjusting mechanism, whereby the front end of the machine can be adjusted and bevelled relative to the front axle. 2nd. The combination, with the wheel A, of hooked rod a₄ and cross-tie a₃. 3rd. In a thrashing machine, the combination with the concave of toggle levers, a crank shaft, or rock shaft and links connecting the crank shaft with the toggle levers, for adjusting the position of the concave. 4th. The combination with crank wheel F, pitman F₁ and connecting bar F₂ of the adjusting plate f. 5th. The combination, with the crank arms E, E₂, of an adjustable connecting bar F₂. 6th. In a separating machine, the separating table E provided with blind slats and shouldered wires e e. 7th. The combination, in a thrasher and separator, of the slotted separating table E, shouldered fingers e, grain table G₁ and the grain rake or riddle belt G. 8th. In a thrasher and separator, a grain table G₁ provided with the trap or hinged portion G₂, to afford access to the interior of the machine. 9th. In a grain separator, the combination with the fan, of a winnower shoe having an adjustable false bottom. 10th. In a separator, the combination of a blast fan, a screen and an adjustable false bottom made in two parts, hinged to each other. 11th. In combination, with the winnower shoe, the supplemental returning board J₂ and adjusting segments J₃. 12th. The belt crank L₂ and link L₃, in combination with link L hinged to the shoe, and adjustable link L₁. 13th. Link L in combination with spout L and adjusting plate L₃. 14th. Spout L having bottom openings U and slides H U, in combination with the centrally pivoted grass seed screen U. 15th. In a grain separator, the combination of an over-blast fan, and a central blast deflector n, with the screen or sieve I and the bottom board of the winnower shoe. 16th. The combination, with the over-blast fan, the central blast deflector and the screen, of an adjustable bottom board, in the winnower shoe. 17th. The combination, of the adjustable tailing board J₂ and returning spout J, with the nest of sieves consisting of the long coarse-meshed upper sieve and the short finer-meshed lower sieves. 18th. In combination with the swinging plate T and shafts R S, the pulleys R₂ S₂, belt w, loose pulley w, and supporting mechanism for driving the

swinging stacker. 19th. The combination, with the cylinder, the vibrating separating table and the shaking shoe, of a carrying device situated beneath the cylinder and the separating table, and supported independently of the separating table and arranged to carry the grain that drops from the cylinder and from the table, backward to the shoe. 20th. In a thrashing and separating machine, a vibrating separating table adapted to receive the mingled mass of straw and grain from the cylinder, in combination with an independently mounted grain carrying table arranged below the separating table to receive the grain which falls through the separating table.

No. 12,376. Improvements on Steam Pumps. (*Perfectionnements aux pompes à vapeur.*)

The Pulsometer Steam Pump Company, New York. (Assignee of John Maslin, Jersey, N.J.), U.S., 18th February, 1881; for 5 years.

Claim.—1st. The method of preventing too sudden and excessive condensation of steam and thereby economizing steam and causing a smooth and noiseless working of a steam vacuum pump, consisting in forming an air cushion between the entering steam and the water in the pump, and in introducing air into the vacuum chamber. 2nd. In a steam vacuum pump, the combination, with the cylinders A and vacuum chamber D, of the vacuum operated valve E. 3rd. As a means for regulating the admission of air to a steam vacuum pump, the vacuum operated valve E consisting of chambered head f, shouldered valve rod h, pe forward valve seat L and screw nut o. 4th. In a valve, the combination, with the chambered head f and valve rod h provided with cleft head t, of the transverse bar g whereby the said valve rod is prevented from turning.

No. 12,377. Improvements on Steam Pumps. (*Perfectionnements aux pompes à vapeur.*)

The Pulsometer Steam Pump Company, New York. (Assignee of Gardner F. Badger, East Orange, N.J.), 18th February, 1881; for 5 years.

Claim.—1st. A steam vacuum pump provided with ball C in the common upright passage between the two bottle shaped chambers A, said ball C being fitted so as to oscillate between its seats from the supply and exhaust of steam from said chambers. 2nd. The combination, with the chambers A and provided with ball C, of the vacuum chamber J, induction and eduction chambers D and H, respectively, and valve seats F and G formed with upward flaring sides c d, respectively, for receiving the valves E E. 3rd. The construction of a steam vacuum pump, the combination with the induction chambers D and eduction chambers H, of the upward flaring valve seats c d and valve seats F G, respectively, having corresponding downward bevelled edges. 4th. As a means for holding the induction valve seats, valves and valve guards in place, the combined rod L and set screw M, said rod and screw being set in line at right angles to the face of the valve seat. 5th. The combination, with the valve seat G, valve E and screw tapped valve guard K, of the screw bolt O, said bolt being entered through the shell of the pump and screwed at right angles into the valve guard.

No. 12,378. Improvements on Sawing Machines. (*Perfectionnements aux scieries.*)

William W. Giles, Chicago, Ill., U.S., 16th February, 1881; for 5 years.

Claim.—1st. In a sawing machine to be operated by one man, a single rear supporting leg B, beam F, hand lever H c and saw K, pitman L connecting the same to the saw lever J by the link M, or directly attached to the latter by bolts. 2nd. In a reciprocating sawing machine, the combination of the diverging beam D D, adjustable dog G and single leg B. 3rd. In a reciprocating sawing machine, the combination of the beam F, the dog G and single leg B. 4th. In a reciprocating sawing machine, the combination of the beam F, the dog G, single leg B, with the block C. 5th. The combination of the single leg B, beam D D, (or F) saw lever J, link M, hand lever H c and a saw, or saw and pitman, with the dog G. 6th. The combination of the single leg B, beam D D, (or F), saw lever J, link M, hand lever H c and a saw, or saw and pitman, with the dog G and the spiral spring P. 7th. The combination of the single leg B, beam D D (or F), saw lever J, link M, hand lever H c and a saw, or saw and pitman, with the dog G, spiral spring P and the rubber blocks f f, or equivalent springs. 8th. The combination of the single leg B, beam D D (or F), saw lever J, link M, hand lever H c and a saw, or saw and pitman, with the dog G and rubber springs f f. 9th. The combination of the single leg B, with or without the adjustable block C, beam D D (or F), saw lever J, link M, hand lever H c and a saw, or saw and pitman, with the dog G and spiral spring P. 10th. The combination of the single leg B with or without the adjustable block C, beam D D (or F), saw lever J, link M, hand lever H c and a saw, or saw and pitman, with the dog G and the rubber blocks f f, or equivalent springs. 11th. The combination of the single leg B with or without the adjustable block C, beam D D (or F), saw lever J, link M, hand lever H c and a saw, or saw and pitman, with the dog G, spiral spring P and rubber springs f f. 12th. In a hand sawing machine with a single rear leg, diverging beam D D, or single beam F, dog G with the saw lever J, attached rigidly to the hand lever H c, together with a saw, or saw and pitman and with or without either or both, the springs P or f f. 13th. A reciprocating sawing machine with but one leg upon the ground to support its rear end, and the forward end upon the log or a suitable frame work for supporting the wood to be sawed. 14th. A reciprocating sawing machine, with but one leg to support its rear end, with or without an auxiliary adjustable dog attached to the main beam to support and adjust the machine to saw at any desired angle. 15th. In a reciprocating sawing machine, the widened base pivot for connecting the saw lever and saw pitman. 16th. A reciprocating sawing machine with but one leg to support its rear end (calling the end resting on the log or frame, the front end), and having the main beam to part thus so as to form two dogs or rests to support the front end and to keep the machine in position.

No. 12,379. Improvements on Conductor Pipes and Holdfasts. (*Perfectionnements aux tuyaux de conduite et crampons.*)

Thomas Linklater, Belleville, Ont., 18th February, 1881; (Extension of Patent No. 5,703).

No. 12,380. Steam Boiler Injector. (*Injecteur de chaudière à vapeur.*)

Charles H. Stuart, Chelsea, (Assignee of William T. Messenger, Boston, Mass., U.S., 19th February, 1881; (Extension of Patent No. 5,709).

No. 12,381. Improvements on "Fire-place" for Steam Boilers. (*Perfectionnements au foyer des chaudières à vapeur.*)

Joseph Nitsche and Theodore Grellnsth, Vienna, Austria, 19th February, 1881; for 5 years.

Claim.—1st. A fire-place having horizontal or nearly horizontal furnace bars or pipes with intermediate solid furnace bars resting thereon. 2nd. A fire-place having two plates in suitable distance apart united by taper tubes or tuyeres of any section. 3rd. A fire-place in which the air coming from the ash pit, or other place, and intending to support the combination, flows partly between the bars or tubes composing the grate, entering the fuel from below, and partly through hollow furnace bars or tubes being heated on its way, and then collects in one or more chambers where it is conducted into the flame by one or more adjusting or superposed openings. 4th. In a fire-place, an arrangement whereby the air for supporting the combustion passes partly into the fire direct, and partly passes through the grate being heated during such passage, and then let out into the flame at a suitable height over the grate, so that the unconsumed carbon particles or the carbon which has only been formed into carbonic oxide, whilst highly heated, are again brought into contact with oxygen containing air and thereby turned completely into carbonic acid.

No. 12,382. Vehicle Springs. (*Ressorts de voiture.*)

The Whitney Spring Company, (Assignee of William F. Whitney and Edward Storm), Poughkeepsie, N.Y., U. S., 21st February, 1881; (Extension of Patent No. 5,789.)

No. 12,383. Improvements on Kettle Handles. (*Perfectionnements aux anses des bouilloires.*)

George Booth, Toronto, Ont., 21st February, 1881; for 5 years.

Claim.—1st. The combination, with the kettle C having the lugs B, of the sheet metal handle A pivoted to said lugs, made in one piece, bent and provided with the downwardly hanging flanges a, on the top of the handle, and the wooden bar D secured to the upper part of the handle by the flanges ad screws.

No. 12,384. Improvements on Process and Boots for Making Horseshoes. (*Perfectionnements au procédé et aux outils pour faire les fers à cheval.*)

Wellington B. McFaul, Vassar, Mich., U.S., 21st February, 1881; for 5 years.

Claim.—1st. The process described for the manufacture of hand-made horseshoes, by the use of the swage described. 2nd. A swage for the manufacture of hand-made horseshoes adapted to form the nail crease. 3rd. A swage for the manufacture of hand-made horseshoes adapted to form the bottom of the shoe, and simultaneously therewith to form the nail crease. 4th. A new article of manufacture, a hand-made horseshoe manufactured by the process, and by the mechanical device.

No. 12,385. Substitute for Screw Bolts and Nuts. (*Substitut pour les boulons et écrous.*)

Nathan Thompson, London, Eng., 21st February, 1881; for 15 years.

Claim.—1st. Forming the curved wedge a with one or more notches or recesses a'. 2nd. Forming the slotted bolt b with a thin web b3, connecting the two opposite sides of the bolt. 3rd. Forming the spring washer c with ribs or projections c'. 4th. Manufacturing the curved rotative wedge a, by stamping the same out of plate metal, and finishing the same. 5th. Manufacturing the slotted bolt by the aid of a series of swages, or partly by rolling and partly by stamping or swaging.

No. 12,386. Apparatus for Dressing Axle Arms of Waggon. (*Appareil pour finir les fusées d'essieux.*)

Robert R. Miller, Plantsville, Ct., U.S., 21st February, 1881; for 10 years.

Claim.—1st. A cutter head journaled upon a bearing which is capable of being centered upon an axle arm, and provided with a cutter that is adapted to be moved radially upon or over the face of said head, whereby the shoulders at the inner and outer ends of the said axle arm may be dressed, and its threaded end cut off. 2nd. As a means for journalling the cutter head upon an axle arm, the sectional ring B fitted into a groove a, in the hub a' of said head, the sleeve K provided with the radial screws k and k1, and the sleeve L, fitted upon said axle arm, and within said sleeve K. 3rd. As a means for centering the sleeve K upon an axle arm, and in combination therewith, the sleeve L and set screw K1. 4th. As a means for adjusting the cutter G to position, and in combination therewith, the block C fitted into the radial opening a' of the head a, the spring D, and set screw E, arranged to bear upon opposite sides of said block, the bolt F having the openings f and nut f', the washer H and the set screw I. 5th. The combination of the disc a provided with the hub a', groove a, axial opening a', radial opening a' and handles a', the sectional ring B, the sliding block C, the spring D, the set screw E, the bolt F having the opening f and nut f', the cutter G, the washer H, the set screw I, the sleeve K, provided with set screw k and k1, and the sleeve L.

No. 12,387. Improvements on Appliances for Manufacturing Baskets. (*Perfectionnements aux appareils à fabriquer les paniers.*)

John Cross, Oakville, Ont., 21st February, 1881; for 5 years.

Claim.—1st. In combination, with a basket block, a gauge or gauges arranged around the said block, for the purpose of gauging the location of the inner and outer hoops.

No. 12,388. Improvements on Brooms. (*Perfectionnements aux balais.*)

James W. Cuthbertson, Listowel, Ont., 21st February, 1881; for 5 years.

Claim.—1st. As an improved article of manufacture, a broom or whisk

having the brush corn B, secured integrally by cement in a single cavity, in a wooden head A, constituting the exterior upper portion of the broom or whisk.

No. 12,389. Improvements on Ore Feeders for Stamp Mills. (*Perfectionnements aux alimentateurs de minerais pour les moulins à pilons.*)

Isaac R. Hammond, Deadwood, Dakota, U. S., 21st February, 1881; for 5 years.

Claim.—1st. The combination, with band G on cylinder C, of the vibratory w-ighted clutch block H having pins h, and a slot in which the shoulder pin works.

No. 12,390. Improvements on Reflecting Ovens. (*Perfectionnements aux fourneaux à réflexion.*)

William A. Austin, Gloucester, Ont., 21st February, 1881; for 5 years.

Claim.—1st. In a reflecting baker, the pan holder C having bars across its bottom, and provided with reflectors A, having support E and provided with hinges F, and wing reflectors B having catches H and rain board D, the whole made to fold up in the form of a book.

No. 12,391. Apparatus for Cultivating Land by Steam Power. (*Appareil d'agriculture à vapeur.*)

Richard P. Parsons, Elsworth, Eng., 21st February, 1881; for 5 years.

Claim.—1st. The arrangement of mechanism, whereby a to and fro traverse motion may be imparted by a single stationary engine to a travelling carriage attached to, or fitted as a cultivator. 2nd. The combination, in a travelling carriage or cultivator to which a traverse motion is imparted by the pull on a rope from a single engine, of the drum g, clutches g, clutch levers g and travel ling wheels b b. 3rd. In a travelling carriage or cultivator to which motion is imparted by the rotation of a drum round which is passed a rope from a single engine, the combination of the head flanged steering wheels c, turn plates d, chain wheels a, chain shafts d, worms d, worm wheels d, shafts d, hand wheels a and coupling rod d.

No. 12,392. Improvements on Telephones. (*Perfectionnements aux téléphones.*)

Anderson Willard, Grand Rapids, Mich., U. S., 21st February, 1881; for 5 years.

Claim.—1st. The combination of a mouth and ear piece with a telephonic diaphragm bearing at all points, except its central portion, against the base of said mouth and ear piece. 2nd. In combination, with a diaphragm and a transmitting wire, a mouth and ear piece having a chamber or passage a, for the application of the mouth or ear, and another passage or chamber a, of straight sided conic frustum form, next outside of said diaphragm. 3rd. A telephonic diaphragm consisting of two disks of wood arranged parallel to each other, and secured together, so as to vibrate in unison. 4th. A telephonic diaphragm consisting of two disks of wood arranged parallel to each other, with their grains crossing and secured together, so as to vibrate in unison. 5th. In combination, with a transmitting wire, a spring-hanger or a series of spring-hangers, or tension devices, each drawing on the wire at two points.

No. 12,393. Refrigerator. (*Garde-manger.*)

Edward S. Piper, Toronto, Ont., 21st February, 1881; (Extension of Patent No 5,733.)

No. 12,394. Improvements on Heating Boilers. (*Perfectionnements aux chaudières de chauffage.*)

Urie Beaupré, Montreal, Que., 21st February, 1881; for 5 years.

Claim.—1st. The combination of the quadrangular and horizontal sections B C D, transverse tubes d d, the openings o o, the bolts p, fire bars b, doors S T and a, inlet b, outlet d and smoke collar R.

No. 12,395. Improvements on Washing Machines (*Perfectionnements aux machines à laver.*)

Gideon Huntington, Toronto, Ont., 21st February, 1881; for 5 years.

Claim.—1st. The combination of the wood and metallic boiler A B, the partition C, tube D and gate L; also the partition C, tube D and gate L, when used in a metallic boiler. 2nd. In combination, with a cylinder, the spring lid or cover a, partitions F or F', wire coils and supporting ribs or flanges H, wire coils G G, the crank I, pulleys J J, with belt or cord H, and the arrangement of cog gear M M N and worked by crank O.

No. 12,396. Improvements on Lifting and Force Pumps. (*Perfectionnements aux pompes élévatoires et foulantes.*)

Emory Barnes, Mount Pleasant, Mich., U. S., 21st February, 1881; for 5 years.

Claim.—1st. The double valve B, sleeved upon the piston rod operating within the valve, and water chamber formed by the cylinder G, and alternately seating itself at the top and bottom thereof. 2nd. The barrel A, double valve B, piston rod C, hollow piston D, valve F, cylinder G, outlet pipe H, shell I, valve J, spider H, cylinder L, valve M, hollow piston N, and pitman connection O, when the parts are constructed and combined to operate as described.

No. 12,397. Improvements on Buttons. (*Perfectionnements aux boutons.*)

Leonard W. Simonds, Berlin, Ont., 21st February, 1881; for 5 years.

Claim.—1st. A button having a circular inclined groove B, and inserted

hollow conical shank C, with slots E E, and prongs D D integral with the shank. 2nd. A button having a shank with slotted cone portion C, compressed in an annular groove B, and held by the expansion of the cone in the groove. 3rd. A button composed of head A with groove B, and shank C with prongs D D, the shank and prongs formed integrally.

No. 12,398. Improvements on Burglar Alarms. (*Perfectionnements aux alarmes-voleurs.*)

Albert F. R. Arndt, Detroit, Mich., U. S., 21st February, 1881; for 5 years.

Claim.—1st. An open backed shell provided with a thumb screw and spur, a nipple, a hammer, a spring and a detent. 2nd. A shell nipple hammer, spring and detent, said detent being reversible. 3rd. A shell, nipple, hammer, spring and detent in which the shell is provided with a spur b, thumb-screw c and bar d. 4th. A shell, nipple, hammer, spring and detent, said nipple being removable.

No. 12,399. Improvement in Skates. (*Perfectionnements dans les patins.*)

James A. Whelpley, Greenwich, N. B., and Valentine Graves, Boston, Mass., U. S., 21st February, 1881; for 5 years.

Claim.—1st. The eccentric lever arranged with the heel rest, and over and connected with the furcated slide, such slide being adapted to the slotted rest plate and jaw carriers and such eccentric lever being to operate against the heel of a shoe or boot. 2nd. The spring latch arranged and combined with the eccentric lever and the perforated and furcated slide, the said lever being arranged in front of the heel plate, and the slide being adapted to the slotted rest plate and jaw carrier. 3rd. The combination of the eccentric lever and the furcated slide, with stationary heel rest, the slotted rest plate and the slotted and pivoted jaw carriers, and being adapted and arranged in the manner set forth. 4th. The combination of the spring latch with the perforated furcated slide, the eccentric lever, stationary heel rest, slotted rest plate and the jaw carriers all being arranged and applied relatively to each other, and the runner, and to operate as set forth. 5th. The jaw carriers pivoted to the runner and supported on the rest plate, and serving to directly sustain the boot sole, when in place on them. 6th. Each jaw carrier and its jaw formed from one plate or piece of metal in the manner represented. 7th. Each jaw carrier pivoted to the runner and supported on the rest plate, and provided with one or more studs or projections to extend down from it, the said jaw carrier, and abut against the rear edge of the said rest plate. 8th. The slotted rest plate provided with the recess S arranged with one of the slots of such plate, in combination with the furcated slide, having hooked turned down parts g, t, enter the slots of the plate and catch on such plate. 9th. The stationary heel rests provided with T—projection t, in combination with the furcated slide provided with the slot h and adapted to the jaw carriers and their back rests.

No. 12,400. Improvements on Platform Tire Coolers. (*Perfectionnements aux rafraîchisseurs-plateformes pour les bandages des roues.*)

Manuel Jasper and William H. Hoover, Walkerton, Ont., 21st February, 1881; for 5 years.

Claim.—1st. A wooden box A with a partition B, for the purpose of keeping water Y, a lever M acting on partition B, from iron straps O to centre block F, in water Y. 2nd. A lever N, hinged on cover D, with the iron straps O, united by bolt to lever M, a slight pressure on the outer end of lever N forces plunger E, with cast iron plate H, in water Y, ruled by iron slides J in a level balanced position, cooling wheel and tire quickly and equally around without waste of water.

No. 12,401. Improvements on Tongue (Pole) Supporters for Vehicles. (*Perfectionnements aux supports des limons des voitures.*)

Oliver Hebert, Oswego, Ill., U. S., 24th February, 1881; for 5 years.

Claim.—1st. A vehicle tongue or thill supporter, consisting of a suspended supporting bar, its rear end resting on the under side of the front axle, and its front end sliding in a groove plate secured to the tongue or thill. 2nd. The sliding supporting bar for a vehicle tongue or thill having the forked rear end d to engage the kingbolt, and sliding front bearing p to engage a catch plate g on the tongue, in combination with the loose collar d, suspended from the pivot bolt of the tongue by hangers e and springs s. 3rd. In a vehicle tongue or thill supporter, the combination of the sliding supporting bar E, having metallic plated and sliding front bearing p, grooved catch-plate g provided with latch O, and loose collar d, suspended from the pivot bolt of the tongue.

No. 12,402. Improvements in Proof Staves. (*Perfectionnements aux règles d'épreuve.*)

Samuel C. Bogart and Joseph H. Milton, Chatham, Ont., 21st February, 1881; for 5 years.

Claim.—1st. The staff A, of any suitable material, handles C and levels B combined, and to be used as a proof staff for millstones.

No. 12,403. Improvements in the Manufacture of Cigars. (*Perfectionnements dans la fabrication des cigares.*)

Isaac Kaufmann, Montreal, Que., 24th February, 1881; for 5 years.

Claim.—1st. As a new article of manufacture, a cigar made with a filling of fine cut tobacco, and a wrapper without a binder. 2nd. The improved art or process of manufacturing cigars by rolling fine cut tobacco, putting a wrapper round such roll and pressing it in a cigar mould, when withdrawn removing temporary wrapper and putting on ordinary cigar wrapper.

No. 12,404. Improvements on Swivel Ploughs.*(Perfectionnements aux charrues tourne-oreille.)*

Jeremy P. Holley, Farmington, Me., U. S., 24th February, 1881; for 5 years.

Claim.—1st. The coulter sheaths I, and the rounded plate K upon the beam and between the sheaths, in combination with the coulter and pivoted bar for lifting the coulter. 2nd. The beam A, coulter G, pivoted bar H, sheaths I and chain L, in combination with a reversible plough.

No. 12,405. Improvements on Hatters' Irons.*(Perfectionnements aux fers des chapeliers.)*

Francis C. Taylor, New York, U. S., 24th February, 1881; for 5 years.

Claim.—1st. The iron A having face f, and one or more concave surfaces g h having a bead or beads i, in combination with a suitable handle connected thereto in a manner as will admit the reversibility of said iron. 2nd. The combination, with the iron A, of the handle B, screw c and sliding bolt d.

No. 12,406. Improvements on Chairs.*(Perfectionnements aux chaises.)*

Newton Brown and John H. Hicks, Paradise, N. S., 24th February, 1881; for 5 years.

Claim.—1st. A chair composed of seat E, bearing on rear legs secured flatwise at about a right angle to inclined flat sides A A, and supported rearwardly by flat strips G G secured to flat rails B F.

No. 12,407. Improvements on Regulators for Electric Lamps.*(Perfectionnements des régulateurs des lampes électriques.)*

Edwin J. Houston, Philadelphia, Pa., and Eliha Thomson, New Britain, Ct., N. S., 24th February, 1881; for 5 years.

Claim.—1st. A shunt electro magnet whose current is derived from that traversing the arc provided with an armature adjustable with respect to said magnet, and the motion of which armature is employed solely to open and close an electric contact, which contact, when made or broken, serves in connection with suitable mechanism provided therefor to adjust the position of the carbon-electrodes. 2nd. The combination of an electro-motor acting to separate the electrodes, with a shunt-magnet separately acting to open and close an electric contact, the separation of the electrodes by said motors being sustained until, by an increase in the arc resistance, the power of the shunt-magnet is sufficiently increased to close the aforesaid electric contact, and thereby divert the electric current from the motor which, ceasing to act, permits the approach of the carbon-electrodes. 3rd. An electro-magnetic device traversed by a current derived or shunted from that of the carbon electrodes, the increase or decrease in the strength of which makes or breaks an electric contact, said contact completing a branch or shunt around an electro magnetic device traversed by the direct current, or a portion thereof, which latter electro-magnetic device alone adjusts the position of the carbon electrodes during normal operation. 4th. An adjustable spring S, the degree of elastic force of which, acting in opposition to the magnetic power of a shunt magnet K, determines the moment of closing the contacts p q, in virtue of an increased power of the shunt magnet, due to an increased arc resistance, consequent on an increased length of arc. 5th. The separating device M N, the intervals of action of which are controlled by an electric contact, the closing and opening of said contact being dependent directly upon variations in the power of a shunt electro-magnet K, whose variations are themselves dependent upon variations in the arc resistance. 6th. The rod R supporting an electrode narrowed at Z. 7th. The combination of the shunt-magnet lever L and roller lever Li, so as to relieve the rod R of its support on an abnormal increase in the strength of the shunt-magnet.

No. 12,408. Improvements on Nailing Machines.*(Perfectionnements aux machines à clouer.)*

The Corrugated Wire Fastening Company, (Assignee of Albion Knowlton), Boston, Mass., U. S., 24th February, 1881; for 5 years.

Claim.—1st. In a nailing machine, the wire feeding mechanism, combined with length gauging cam having a surface to determine the extent of movement of the wire feeding mechanism for nails of different length. 2nd. The wire feeding and cutting mechanism combined with the adjustable length gauging cam, and lever operated by it, to release the hold of the wire feeding mechanism from the wire and operate the cutter to sever the said wire. 3rd. The adjustable rotatable length gauging cam provided with the tapering face 2, and surface 8 combined with the lever m, and its roller 4 having a rounded face. 4th. The wire feeding roller r, supported by the arm z, combined with the cutter bar, actuating lever adapted to move the said roller away from the roller z, and stop the wire feed as the cutter begins to sever the wire. 5th. The cutter bar n, and its hardened steel tube adapted to serve as the carrier to place the nail in line with the driver, combined with a stationary cutter to co-operate with the said tube in the bar n. 6th. A cutter bar provided with a hardened steel tube, to co-operate with a stationary cutter to sever a nail from a wire, and carry it into position below the driver h to be driven, combined with the driver and driver-bar, and shoe feeding mechanism. 7th. An intermittently operating wire feeding mechanism adapted to feed the wire for a greater or less distance, according to the desired length of the nail, combined with a carrier having a hardened steel cutter, and a co-operating stationary cutter to sever the wire, at right angles to its length and place it in a position to be driven.

No. 12,409. Improvements on Condensers.*(Perfectionnements aux condensateurs.)*

Israel R. Blumenberg, Washington, D. C., U. S., 24th February, 1881; for 5 years.

Claim.—1st. A surface condenser, consisting of two standing diverging legs for the condensing liquid to ascend in one leg after the other, and having a corresponding interior tube system or chamber for the steam, vapour or

gas to descend in and to be thus condensed. 2nd. The chamber A A, made in the form of two slanting diverging legs for the ascent of the condensing water, and having at each end a tube plate C C, with connecting tube or tubes D D, for the descent of the fluid to be condensed, and also a bonnet B B, and inlet and outlet openings b b and c c. 3rd. A surface condenser, the outer chamber of which is made in the form of two slanting diverging legs, and constructed in halves for the convenience of making and for affording facility for adding an intermediate chamber.

No. 12,410. Fish Extract.*(Extrait de poisson.)*

Stephen L. Goodale, Saco, Me., U. S., 24th February, 1881; (Extension of Patent No. 5,764.)

No. 12,411. Process of Purifying Waxes, Resins, Gums and Fatty Matters.*(Procédé d'épuration des cires, résines, gommes et corps gras.)*

Louis G. Bertram, Brooklyn, N. Y., (Assignee of William Bell and Daniel T. Gray, executors of the will of William M. Sloane, New York, N. Y.) U. S., 26th February, 1881; for 5 years.

Claim.—1st. The process of purifying, cleaning and refining paraffine wax, other waxes, fatty matters, resins and gums, consisting in forming a solution thereof with naphtha or other solvent through heat and agitation, subsequently cooling and congealing the same, next subjecting the same to pressure, and then filtering, keeping the mass heated during the filtering.

No. 12,412. Improvements on Combined Steam and Air Engines.*(Perfectionnements aux machines à vapeur et atmosphériques combinées.)*

Edward M. Strange, Baltimore, Md., U. S., 26th February, 1881; for 5 years.

Claim.—1st. In combination, with a steam generator, an engine cylinder, one end of which is adapted as an air compressor to force air to the said generator, and with this view connected to the said generator, by means of a suitable air pipe having a valve therein opening towards the said generator, the other end of the said cylinder being connected to the steam space of the generator, through the medium of appropriate pipes and valve openings. 2nd. In combination with a steam generator, an engine cylinder, one end of which is in communication with the steam space of the said generator, the other end of the said cylinder being used as an air compressor, and adapted to force air to the steam pipe of the engine, or to the steam chest of the said engine. 3rd. In combination with a steam generator, an air compressing cylinder surrounded or partially surrounded by a water jacket, the water of which has means of communication with the water in the boiler, or with the other source of water supply, and also with the steam of the boiler at boiler or cylinder pressure. 4th. In combination with a steam generator, an air compressing cylinder surrounded, or partially surrounded by a water jacket, the water of which is in communication with the steam from the said boiler. 5th. In combination with an engine cylinder, an air compressing cylinder surrounded by a water jacket, with appropriate pipes for conducting the compressed air and the steam generated in said water jacket, by the heat from the compressed air to the said engine cylinder.

No. 12,413. Improvements on Button Fasteners.*(Perfectionnements aux queues des boutons.)*

William H. Sproston, Birmingham, Eng., 26th February, 1881; for 5 years.

Claim.—1st. As an improved article of manufacture, a button fastener integrally composed of the disc A, prongs B B, with hooked terminations C C, bent laterally together, to hold the shank of a button.

No. 12,414. Improvements on Boot Soles.*(Perfectionnements aux semelles des bottes.)*

Findlay McKellar, Tiverton, Ont., 26th February, 1881; for 5 years.

Claim.—1st. The wooden sole. 2nd. The mode of attaching the sole to the upper.

No. 12,415. Improvements in Egg Carrier Trays.*(Perfectionnements aux boîtes à oeufs.)*

John T. Fogg, Garland, Me., U. S., 26th February, 1881; for 5 years.

Claim.—1st. An egg carrier tray composed of interlocking strips and four outside strips united at the corners with flexible folding hinges, constructed so as to present no projecting ends of the various strips. 2nd. The combination of the strips A A, having slots a a at the strips B B with their slots b b b, and strips C C with their slots c c, all interlocked and hinged to the surrounding frame D D. 3rd. The combination of the interlocking strips A B C, with the four strips D D which are hinged together and provided with blocks or guards F F.

No. 12,416. Improvements on Sewing Machines.*(Perfectionnements aux moteurs des machines à coudre.)*

Joseph V. Morton, Winchester, Ky., U. S., 26th February, 1881; for 5 years.

Claim.—1st. The combination, with the treadle D, of the hand lever F the connecting rod H, and the adjustable rod I, whereby the sewing machine can be driven by hand power or foot power, or by hand and foot power combined. 2nd. The combination with the hand lever F, of the jointed hand piece L, and the spring catch bolt M N, whereby the hand piece, when not in use, can be turned down out of the way.

No. 12,417. Improvements on Fire-Escapes.*(Perfectionnements aux sauteurs d'incendie.)*

Charles Barlow, Cookshire, Que., 26th February, 1881; for 5 years.

Claim.—1st. The cylinders A A containing the gas or fluid, and the pis-

tons B B, with the orifice H, also the frame E E and the crank wheel C with the arbour, and chain wheel D with the endless chain F, and the belt I with the hammer and spring J, also the points S S, all combined.

No. 12,418. Improvements on Smoke Consumers. (*Perfectionnements aux appareils fumivores.*)

John B. Ball, Putney, Eng., 26th February, 1881; for 5 years.

Claim.—1st. The bent plate and hollow mid-feather, the space within both communicating with the water space of the boiler, and forming together a channel through which air is directed into the fire box.

No. 12,419. Improvements in Nutmeg Graters. (*Perfectionnement aux râpes à muscade.*)

Albert B Hill, Boston, Mass., U.S., 26th February, 1881; for 5 years.

Claim.—1st. A circular block A with the stationary disc a and collar d operating in combination with the revolving disc at and spring pressure p d e.

No. 12,420. Improvements on Moulding Machines. (*Perfectionnements aux machines à mouler.*)

Thomas Cowan and John Ballantine, Galt, Ont., 26th February, 1881; for 5 years.

Claim.—1st. A horizontal shaft supported on the table of a moulding machine, and arranged to operate simultaneously all the spring guards. 2nd. The table of a moulding machine having spring guards I supported in spindles G, adjustably held within sleeve E provided with worm pinions F, in combination with the worm D on the horizontal shaft C provided with a handle J.

No. 12,421. Improvements on Machines for Packing Barrel Headings. (*Perfectionnement aux machines à emballer les fonds des barils.*)

John Greenwood, Rochester, and Emerson Cole, Brooklyn, N.Y., U.S., 26th February, 1881; for 5 years.

Claim.—1st. The combination with the platform E and follower G separated by springs k k, of the arms H H pivoted to bearings of the platform, the short end of the arms resting under the edges of the headings as they are placed upon the follower, so that as the follower is raised the springs will allow it to yield, causing the headings to strike the arms and raise them into a vertical position. 2nd. The combination of the platform E, the follower G, the spring k k resting between the platform and follower, the arms H H pivoted to bearings of the platform and the stationary head block D. 3rd. The combination with the follower G resting upon springs, of the pivoted arms H H arranged in position with the platform, to receive and hold the ends of the crossed bands which rest upon the follower. 4th. The combination with the arm H, of the spring attached to its back and provided with lugs r r projecting forward of the arm. 5th. The head block D consisting of the segmental plates b b separated from each other, and having slots c c between them, for the passage of the binding bands when turned over the top of the package.

No. 12,422. Process and Apparatus for Extracting Metals from Ores. (*Procédé et appareil pour extraire les métaux des minerais.*)

Thurston G. Hall and George H. Van Vleck, Buffalo, N.Y., U.S., 26th February, 1881; for 5 years.

Claim.—1st. The process of extracting the precious metal from refractory ore which consists in heating the ore in a blast furnace by means of a combined air and gas blast, until the precious metal is sublimated, and in precipitating the sublimated metal in an open condensing volume, by means of a water spray. 2nd. An apparatus for extracting the precious metal from refractory ore, consisting of a closed top blast furnace A provided with a combined air and gas blast and a condensing column D open at top and bottom, connected with the upper portion of the blast furnace by a gas trunk c, and provided with a water spray and one or more receptacles for the precipitated metal. 3rd. In combination with the sublimating furnace a, gas conduit c, having steam jet g, the condensing column D provided with water spray h i and formed at its lower end with two or more branches D₁, gate or valve d and two or more separate receptacles E. 4th. The combination, with the sublimating furnace a, of the condensing column D provided at its lower end with two or more branches D₁, gate or valve d and two or more separate receptacles E.

No. 12,423. Apparatus for Extracting Metals from Ores. (*Appareil pour extraire les métaux des minerais.*)

Thurston G. Hall and George H. Van Vleck, Buffalo, N.Y., U.S., 26th February, 1881; for 5 years.

Claim.—1st. The combination, with a distillation furnace, of the separating column D receiving the gas and vapour from the furnace, and the condenser O surmounting the column D. 2nd. The combination, with the furnace A and gas pipe F, of the column D provided with blast pipe I, and the condenser O surmounting the column D. 3rd. The combination, with the furnace A and gas pipe F, of the column D, water sealed at its foot and provided with a blast pipe I, and the condenser O surmounting the column D, and provided with a spray nozzle p and escape pipe S. 4th. The combination, with the furnace A and gas pipe F, of the column D provided with blast pipe I, steam jacket G surrounding the column, steam pipe H entering the gas pipe, steam pipes m entering the column, and condenser O surmounting the column. 5th. The combination, with the furnace A and gas pipe F, of the column D provided with blast pipe I and having its foot liquid sealed by the receiving tank K, steam jacket G, steam pipes H M m, condenser O, water spray p and escape pipe s.

No. 12,424. Improvements on Clothes Washers. (*Perfectionnements aux laveuses à linge.*)

David E. Taylor, Charleton, Mass., U.S., 26th February, 1881; for 10 years.

Claim.—1st. The combination, with case A and looped head I, of the wire loop springs G. 2nd. The combination, with case A, looped head I and loop springs G, of the sucking and water lifting head E.

No. 12,425. Apparatus for Sulphuring Matches. (*Appareil pour soufrer les allumettes.*)

Ezra B. Eddy, (Assignee of Nathan Butler), Hull, Que., 26th February, 1881; for 5 years.

Claim.—1st. The combination of furnace A, pan B having shallow portion H with rails I I at one end, exterior heating surface D with rails E d contiguous to the opposite end of the pan, sprocket wheels d and endless apron or chains E₁, wholly within the pan, and a pushing device for feeding the racks or rolls of matches from the heating surface D to the endless apron E₁, whereby the matches are dried, dipped, delivered and drained at one continuous operation. 2nd. The combination of the heating surface D having rails E d, pan B having shallow portion H with rails I I and endless apron or chains E₁, wholly within the pan. 3rd. In combination with the pan B and a plate or raised heating surface D, a pushing device for feeding the matches to the apron or chains E₁, consisting of arm K, slotted lever K, fulcrum M and gear wheels O having a wrist pin connection with slotted lever L and driven by bevelled pinion O₁.

No. 12,426. Improvements in Furnace Grates. (*Perfectionnements aux grilles des fourneaux.*)

Walter Gillespie and James G. T. Cleghorn, Montreal, Que., 26th February, 1881; for 5 years.

Claim.—A furnace grate composed of panels carried by chains moving from front to back.

No. 12,427. Improvements on Combined Broilers and Fryers. (*Perfectionnements aux grils poêlés à frire.*)

Alexander Anderson, London, and Walter Arnold, Toronto, Ont., 26th February, 1881; for 5 years.

Claim.—1st. A bottomless case, tapered so as to fit various sizes of pot holes and provided with a hinged cover having an air hole in it, in combination with a frying pan or other similar cooking utensils, set within the case so that there shall be an air passage between the two. 2nd. A tapered bottomless case A, provided with a handle B and having its interior surface corrugated or fluted, a cover C hinged to the said case and pierced by a hole G, in combination with a trying pan or other cooking utensils supported on the lugs J and provided with a handle fitting into the notch H.

No. 12,428. Improvements in Lanterns. (*Perfectionnements dans les lanternes.*)

Evan F. Cash, Alfred L. Baron and David Rankin, Bellaire, Ohio, N.S. 26th February, 1881; for 5 years.

Claim. 1st. In a single globe lantern, the passage or passages for feeding air to the flame situated between the outside of the globe, and a vertical plate or plates placed against the same. 2nd. The lantern globe A having one or more exterior grooves a a which are constructed to form air passages when the globe is mounted in the lantern. 3rd. In a lantern, the combination of the grooved globe with vertical plates covering such grooves. 4th. The plates B B₁ forming part of the air passages and supporting the top D. 5th. The combination of the grooved globe A, supporting plate C, plates B B₁ and top D. 6th. The combination with the plates B B₁ forming part of the air passages, of the top D hinged to one plate and secured by a spring catch to the other. 7th. The combination of the ground globe A and plates B B₁ supporting on the plate C carrying the cone and hinged to the shell of the burner.

No. 12,429. Improvements on Seal Locks. (*Perfectionnements aux serrures scellées.*)

John Dewe, (Co-inventor with George Bailey), Ottawa, Ont., 28th February, 1881; for 5 years.

Claim.—1st. The slotted plate K in combination with a fixed stud J, looking pin I and spring belt D with unhooking lever E, concealed by the closed door A. 2nd. The hinged bow handle F having shoulder H and terminating in a locking pin I, in combination with spring bolt D, plate K and stud J.

No. 12,430. Improvements on Cabinet Bedsteads. (*Perfectionnements aux lits-buffets.*)

John W. Stanton and Alfred J. Wolf, New York, U.S., 28th February, 1881; for 5 years.

Claim.—1st. A cabinet or folding bedstead, the corner braces E E₁ hinged at one of their ends to the base a, and at their other end to the said rails D D, in combination with the side rails D D and base a adapted to strengthen and support the rails centrally. 2nd. The pivoted links K K₁ fastened respectively at each of their ends to an opposite end of the side rails D D crossing each other obliquely and the pivoted link K₂ coupled to the link K₁ and to the hind part L, all in combination with the side rails D D and hind part L adapted to operate and move the several parts with which they are connected into proper position when the bed is opened or closed. 3rd. The locking flaps C₁ in combination with the projecting brackets D₁ and the folding side rails D D. 4th. A cabinet or folding bedstead having folding side rails D D connected by pivoted links K K₁ K₂, in combination with base a supporting braces E E₁, and dropping back I carrying legs L, all operated by a single movement.

No. 12,431. Apparatus for Driving Bogie Axles of Locomotives. (*Appareil à chasser les essieux des trains des voitures-locomotives.*)

Joseph Apsey, London, Eng., 23th February, 1881; for 5 years.

Claim.—An apparatus for driving bogie axles, wherein one or more

cranks, on either the diving shaft or the bogie axle, have their crank pins passing through balls fitted to turn within blocks sliding radially in a toothed wheel, in gear with a wheel on the bogie axle or the shaft, so that the shaft or axle of the first named wheel can assume any angular position thereto. 2nd. In an apparatus for driving bogie axles the combination of the shaft *b*, crank arms *b3*, pins *b4*, wheel *c*, blocks *c2* and balls *c3*.

No. 12,432. Improvements on Portable Shower Bath Apparatus. (*Perfectionnements aux appareils à douches portatifs.*)

James E. Vansant, Cincinnati, Ohio, U. S., 28th February, 1881; for 5 years.

Claim.—1st. The combination, with the vessel A and sprinkler D, of the tube E. 2nd. The combination of the indicating float F provided with wires *f1* having heads *f2* formed on their outer ends, with the vessel A. 3rd. The combination of the tubes G and the ballasting weight *g1*, with the pivoted vessel A. 4th. The combination of the bail J and cords L M, with the pivoted vessel A and the main bail H. 5th. The combination, with the bailes H J, of the hinged catch K.

No. 12,433. Improvements on Hub Attaching Devices. (*Perfectionnements aux appareils à ajuster les moyeux.*)

Zadock Huggins, Allegan, Mich., U. S., 28th February, 1881; for 5 years.

Claim.—1st. The box A, axle B and circumferential flange, or collar *c* connected thereto, in combination with the band C having part *d* and the disc *x z* having a packing chamber between the two and the screw *d*.

No. 12,434. Improvements on Pumps. (*Perfectionnements aux pompes.*)

Pierre E. Jay, New York, N. Y., U. S., 1st March, 1881; for 5 years.

Claim.—1st. The combination of the off-set *a*, having the sloping bottom *c*, the ring *f* having its inner side inclined or sloping in a direction opposite to the inclination of the bottom *c*, the packing D interposed between the aforesaid ring *f* and the sloping bottom *c*, the bolts *g* for actuating the ring *f*, the plunger *c* having a diameter somewhat less than the bore of the pump cylinder in which it is placed. 2nd. The ring E constructed with the screw threads *n1*, in combination with the screw thread *a1* of the part A of the cylinder, the screw *thr ad b1* of the part B of the said cylinder, the sloping or inclined bottom *c* of the off-set *a*, the packing D, the ring *f* and movable bolt *g*. 3rd. The pump cylinder composed of the part A having the off-set *a*, and the part B having the flange *b*, whereby, when the parts are joined, an annular chamber is formed for the reception of a stationary packing. 4th. A pump body or barrel constructed with one or more screw sections capable of longitudinal adjustment to afford access to the interior of the said barrel. 5th. In a pump barrel, the combination of the internally screw threaded end parts A1 and B1, the externally screw threaded sections E1 F1, and internally screw threaded central portion C1 carrying a suitable packing, and a plunger D1. 6th. The internally threaded central portion C1, constructed with the internal circumferential rib *c1*, the two packing rings *c1 f1*, the externally threaded sections E1 F1, the internally threaded end parts A1 B1 and the piston D1. 7th. The combination of the jam nuts F1 F11 E11 E111 with the internally threaded end parts A1 B1, the externally threaded sections E1 F1 and the internally threaded central portion *c1* of the pump barrel. 8th. The combination of the laterally adjustable block H3 carrying the pivot of the arms K3, the arms K3 provided at their outer extremities with weights L3, the wheel *c3*, having guides for holding the arms K3 in position, and the crank A3 having the wheel *c3* attached to its shaft B3. 9th. The combination of the laterally adjustable block H3, plate H3, bolt *h3*, nut *m3* guides F3, pivoted arms K3 having weights L3, wheel *c3* having guides for retaining the arms K3 in position, and crank A3, the whole arranged for joint use and operation. 10. The combination of the block H3 having the rack *c3* on its under side, and pinion F3 having a crank or hand wheel, in combination with the arms K3 having weights L3, the wheel *c3* having guides for holding the arms K3 in position, and the crank A3. 11th. The rollers *c3*, each composed of the two parts *c1* having the flanges *c1*, the guides F3 and pivots or screws *b3*, in combination with the slotted arms K3 having weights L3, the wheel *c3* and the crank B3. 12th. The weights L3 constructed with sharpened ends, in combination with the arms K3 and the wheel *c3* on the shaft of the crank A3. 13th. A spoke or spokes *c4*, having a rectangular cross-section, in combination with a weight or weights L3, bearing B5, bearing *g4*, and arm or arms K3. 14th. A weight or weights L3, composed of lateral sections *r*, secured together by screws or bolts *n*, in combination with a radial spoke or spokes *c4*, bearing B5, bearing *g4*, and radial arm or arms K3.

No. 12,435. Improvement on Toe Weights for Horses. (*Perfectionnement aux pesées pour les sabots des chevaux.*)

David Roberge and David Roberge, jr., New York, N. Y., U. S., 1st March, 1881; for 5 years.

Claim.—1st. A foot weight for horses, composed of two separate sections *c c1*, each section being provided with one or more conveying or radial fingers *d d1*, and adapted to be secured to the other section by means of a screw bolt *f*, after being applied to the foot.

No. 12,436. Improvements on Corsets. (*Perfectionnements aux corsets.*)

Solomon Vermilyea and Hannah M. Vermilyea, Belleville, Ont., 1st March, 1881; for 5 years.

Claim.—The eyelets piercing the steel ribs at the back F, also the eyelets piercing the steel at each end of the side ribs H.

No. 12,437. Improvements in Gas Burning Furnaces. (*Perfectionnements aux fourneaux à gaz.*)

Joseph J. Gill, Steubenville, Ohio, U. S., 1st March, 1881; for 5 years.

Claim.—1st. In combination with a gas producer, a double arch covering the same and forming an intervening unbroken air chamber, with inlet ports

d for the supply of air, and exit ports *d1*, leading thence to the combustion chamber. 2nd. An open chamber D2, surrounding the vertical walls *c1* of the combustion chamber, and with ports *d1* leading through such walls to the combustion chamber. 3rd. In combination with one or more chambers B of a gas burning furnace, an arch D covering each such chamber, such arch being of substantially equal thickness throughout, in combination with an undivided air chamber, D2, extending over the whole or the greater part of the upper surface of the arch or arches; and passages for supplying air to such air chamber, and for conducting it thence to the combustion chamber of the furnace. 4th. In a gas producing and burning furnace, a pier P, arched at its end as at *a*, for an arch support, and squarely built inside, such end as at *a1*, for a support for the walls of the combustion chamber. 5th. The combination of the pier P, supplemental arches *c2*, walls *c1* and arch or cover D with eye *g1*.

No. 12,438. Hinged Frame Spring Bed Bottom. (*Sommier élastique à charnières.*)

William Critch, Toronto, Ont., 1st March, 1881; (Extension of Patent No. 5,741).

No. 12,439. Improvements on Paper Veneer. (*Perfectionnements au placage en papier.*)

Isaiah M. Clark, Coldwater, Mich., U. S., 1st March, 1881; for 15 years.

Claim.—1st. The process of preparing or treating paper to form a painted veneer, the same consisting in applying a coat of dry white lead or zinc and varnish mixed, and then graining or painting in imitation of wood. 2nd. The process of applying the paper veneer to wooden surfaces, the same consisting in saturating the plain or uncoiled side of the veneer with water, then immediately coating it with glue or cement and laying it, while still wet, on the wooden surface, and stretching it as much as practicable at the same time. 3rd. The paper veneer having a foundation coat of mixed dry white lead or zinc and varnish, and an oil painted ornamental coat or finish.

No. 12,440. Improvements in Thrashing Machines. (*Perfectionnements aux machines à battre.*)

Thomas Doherty, Watford, Ont., 1st March 1881; for 5 years.

Claim.—1st. The combination of the double crank shaft B, rack E, provided with brackets E E, and shaft B2, levers G G., table F1, arms H H and hangers J J.

No. 12,441. Improvements on Milk Pans. (*Perfectionnements aux boîtes à lait.*)

John G. Cherry, Cedar Rapids, Iowa, U. S., 1st March, 1881; for 5 years.

Claim.—1st. The milk vessel A provided with the central tube B, graduated glass windows E, feet *f* and outlet *f* having screw cap *g* in combination with the conical cover D, having overlapping sides *d*, and central tube *c1*. 2nd. In a pan for setting milk to raise cream, the conical cover D adapted to be arranged upon the milk pan A, in such a manner as to allow the condensed animal heat or vapour to escape, and at the same time exclude the outer atmosphere and water from the contents thereof. 3rd. The pan A, provided with the graduated windows E arranged so as to measure the contents of the pan while contained therein.

No. 12,442. Improvements on Snow Ploughs. (*Perfectionnements aux charrues à neige.*)

John L. Sturdy, Goderich, Ont., 1st March, 1881; for 5 years.

Claim.—1st. An inclined plane A, provided with side wings B and leading from the rails to a flat platform C, in combination with a concealed plough head D placed upon the flat platform, for the purpose of throwing to the rear of the moving plough, the snow accumulated on the platform.

No. 12,443. Improvements on Vessel Propellers. (*Perfectionnements aux propulseurs des vaisseaux.*)

Richard Smith, Sherbrooke, Que., 1st March, 1881; for 5 years.

Claim.—1st. In reciprocating propellers for navigable vessels, two steam cylinders, pistons and rods, in combination with two propeller blades hinged together at their inner edges, one piston rod being connected with the hinge of the blades, and the other with the outer edges of such blades. 2nd. In reciprocating propellers for navigable vessels in which two steam cylinders (one for driving ahead and the other for backing), pistons and rods are employed with the two propeller blades hinged together at their inner edges, one piston rod being connected with said hinge and the other with the outer edges of the blades, the construction of the two piston rods, whereby a short slip movement is permitted between them sufficient to open or close the propeller blade, while at other times the two rods with the propeller move together. 3rd. The piston rod of one cylinder, as tubular upon its outer end and enclosing the outer end of the rod of the other cylinder. 4th. The piston rod of one cylinder as tubular upon its outer end, to enclose the outer end of the rod of the other cylinder, when a longitudinal slip is permitted between them of sufficient extent to open or close the blades of the propeller. 5th. The construction and arrangement of the two piston rods, the hinged blades and their connections, whereby upon opening the blades when the direct cylinder is used, the outer edges of such blades, with the backing piston rod, remain practically stationary, while their inner edges move with the primary piston rod outward to open the blades. 6th. The construction and arrangement of the two piston rods, the hinged blades and their connections, whereby, upon closing the blades when the direct cylinder is used, the hinges of such blades, with the primary piston rod, remain practically stationary, while the outer edges of the blades by and with the backing piston rod move inward upon such hinge and fold together. 7th. The piston rod of the primary cylinder, as extending to the propeller in a straight line, in combination with the piston rod of the backing cylinder which takes a bend, at its outer end and enters the tubular outer end of the primary piston rod, or the tubular shaft of the propeller secured to the outer end of the said primary piston, a longitudinal slip permitted between the two rods of sufficient ex-

tent to permit of opening and closing the propeller blades. 8th. In combination with the rod K, with its outer tubular portion, or propeller shaft M, cross-head d and the wings z z hinged at their bases to such cross-head, the rod L bent and entering the tubular shaft M, and provided with the stop or yoke P, to regulate the slip between the two rods and bearing the arm Y, connected by links with the outer edges of wings z z.

No. 12,444. Machine for folding and Pasting the ends of Collars. (*Machine à plier et encoller les bouts des faux-cols.*)

Richard Jellyman and George N. W. Rice, Montreal, Que. (Assignees of Charles Spofford, Boston, Mass., U. S.,) 2nd March, 1881; (Extension of patent No. 5,748.)

No. 12,445. Improvements on Sewing Machines. (*Perfectionnements aux machines à coudre.*)

George W. Simmons, Boston, (Assignee of Thomas S. L. Howard, Somerville,) Mass., U. S., 2nd March 1881; (Extension of patent No. 5,751.)

No. 12,446. Car Truck Shifting Apparatus. (*Appareil pour déplacer les trains des chars.*)

Robert H. Ramsay and George N. Scarlett, Cobourg, Ont., 3rd March 1881; (Extension of patent No. 5,784.)

No. 12,447. Improvements in Envelope Machines. (*Perfectionnements aux machines à enveloppes.*)

Louis P. Bouvier and John F. Ellis, Toronto, Ont., 4th March, 1881; for 5 years.

Claim.—1st. A machine for making envelopes, having a reciprocating carrier for carrying the blank from the picker to the creasing box, a support arranged to carry the blank between the points named without interfering with the movement of the plunger. 2nd. The reciprocating carrier B, connected together by the bridge pin D, in combination with a cord E, extending from the bridge piece D to the outside edge of the creasing box, in such a manner that it will always remain taut, notwithstanding the movement of the carrier. 3rd. The carriers B, connected together by the bridge piece D in combination with the cord E, extending from the bridge piece over the pulleys F G H to the arm I, to which it is attached by the spiral spring J.

No. 12,448. Heat Radiator. (*Calorifère.*)

Emerson C. Angell, New York, U. S., 4th March, 1881; (Extension of Patent No. 5,771.)

No. 12,449. Heat Radiator. (*Calorifère.*)

Emerson C. Angell, New York, U. S., 5th March, 1881; (Extension of Patent No. 5,771.)

No. 12,450. Improvements in Stock Cars. (*Perfectionnements aux chars à bestiaux.*)

John R. McPherson, Jersey, N. J., U. S., 5th March, 1881; (Extension of Patent No. 5,782.)

No. 12,451. Improvements in Stock Cars. (*Perfectionnements aux chars à bestiaux.*)

John R. McPherson, Jersey, N. J., U. S., 7th March, 1881; (Extension of Patent No. 5,782.)

No. 12,452. Improvements on the Maxwell Reaper. (*Perfectionnements à la Moissonneuse dite "de Maxwell."*)

David Maxwell, Paris, Ont., 7th. March, 1881; (Reissue of Patent No. 8,275.)

Claim.—1st. In a harvesting machine in which the main driving wheel revolves freely upon its axle, to which axle the gear wheel for driving the cutter, is fastened, the combination of the rocking rod seated on the wheel, and having a pawl upon its inner end to engage with the ratchet teeth formed upon the gear wheel, for the purpose of imparting motion to the main driving axle in the forward movement of the machine. 2nd. In a harvesting machine in which the main driving wheel revolves freely upon its axle, to which axle the gear wheel, for driving the cutter, is fastened, the combination of a rocking rod seated on the wheel, and having a pawl and spring connected to it with a lug or projection on the main wheel, for the purpose of holding the pawl in or out of gear, with the ratchet teeth on the gear wheel.

No. 12,453. Improvements on Car Wheels. (*Perfectionnements aux roues des chars.*)

William W. Lobdell, Wilmington, Del., U. S., 7th, March, 1881; (Extension of Patent No. 5,835.)

No. 12,454 Improvements on Pipe Elbow Flanging Machines. (*Perfectionnements aux machines à faire les bourrelets des coudes de tuyaux de poêles.*)

John P. Joor and James E. Downey, Indianapolis, Ind., U. S., 7th March 1881; for 5 years.

Claim.—1st. The top B with ring C and radial slots w w combined with the segmental pipe clamp I I I, gibbed slide T T T, link R R R, moveable ring J and lever K. 2nd. In combination with the segmental pipe clamp I I I, the cone H and shaft a. 3rd. The head L with slide wings L L L and jaws L combined with the moveable arms M M M and adjustable moveable arms M M', rollers i i, springs v v, arms f f and cone spreader F. 4th. In combination, the head L with lateral adjustable rollers i i and arms f f, the cone spreader F, adjustable segmental pipe clamps I and cone H.

No. 12,455. Improvements in the manufacture of Iron, Steel and other Metals. (*Perfectionnements dans la fabrication du fer, de l'acier et autres métaux.*)

John Conant and Luther F. S. Viele, Prairie du Chien, Wis., U. S., 7th. March, 1881; for 5 years.

Claim. 1st. A compound composed of sulphate of copper, rosin and sal-ammoniac. 2nd. The process for the treatment of steel and other metals, by means of a compound or mixture of sulphate of copper, rosin and sal-ammoniac.

No. 12,456 Improvements on Vehicle running Gears. (*Perfectionnements aux trains de dessous des voitures.*)

Edward N. Heney, (Assignee of Jules Lajeunesse.) Montreal, Que., 7th. March 1881; for 5 years.

Claim.—1st. The combination of the X-shaped perch G with the spring D, braces L and bar H. 2nd. The combination of the springs D, X-shaped perch G, braces L, bar H and upper part of fifth wheel M. 3rd. The combination of the springs D, bar H and upper part of fifth wheel M. 4th. The combination of the X-shaped perch G with the side springs D.

No. 12,457. Improvements on Rotary Fire Grates. (*Perfectionnements aux grilles de foyer rotatoires.*)

The Doten Rotary Fire Grate Company, (Assignee of Clark W. Doten,) Boston, Mass., U. S., 7th March, 1881; for 5 years.

Claim.—1st. A series of rotary wheels B having lugs D, and secured upon a shaft E, and interlocking with other series of rotary wheels B, the intervening spaces between the peripheries of said wheels being provided with a series of stationary segments C, having lugs D. 2nd. A series of rotary wheels B having lugs D and interlocking with other similar series of rotary wheels B, the intervening spaces being provided with a series of stationary segments C having lugs D, said wheels and segments being mounted upon a series of shafts E provided with gear wheels H, whereby said wheels B are rotated simultaneously.

No. 12,458. Improvements on Bottle Washing Machines. (*Perfectionnements aux machines à laver les bouteilles.*)

Joseph M. Hoyt, Lynn, Mass., U. S., 7th March, 1881; for 15 years.

Claim.—1st. A brush carrier composed of the tubular hub N provided with two dovetailed grooves extending longitudinally thereof, (the bottom of which grooves are substantially concentric with the axis of said hub) and the two leaf springs O O made of even thickness throughout and having the ends thereof, which are secured to the tubular hub N bevelled to fit said dovetailed grooves, and also curved transversely from said end to a point some distance in advance of the front end of said hub. 2nd. A rubber brush provided with two sockets as a means of securing it to flexible and yielding arms, and also provided with a series of projecting bosses or hubs, the ends of which act upon the surface of the bottle independently of each other. 3rd. The combination, in a bottle washer, of the non-revolving sleeve K provided with the set screw a, the inner sleeve L provided with the circumferential groove c, and segmental collar b. 4th. The fixed frame C provided with bearings c c, the hollow shaft D provided with the pulley E and carrying at one end the brush carrier N O O, and connected at its other end with the fixed pipe G by means of a stuffing box G, the valve H, upright lever d, spring e, the reciprocating frame I I J J, the spring M and the sleeves K L. 5th. In a bottle washer, a rubber brush provided with means of attaching it to the spring carrier and with the long flaring projecting wings g g.

No. 12,459. Process for producing Gelatine Relief Plates. (*Procédé pour produire des plaques de gelatine en relief pour imprimer.*)

William H. Mumbler, Boston, Mass., U. S., 7th March, 1881; (Extension of Patent No. 5,760.)

No. 12,460. Improvements in Lathes for Turning Car Wheels and Axles. (*Perfectionnements aux tours à tourner les roues et les essieux des chars.*)

George G. Lobdell, Wilmington, Del., U. S., 7th March, 1881; (Extension of Patent No. 5,825.)

No. 12,461. Railway Flange Cleaner. (*Chasse-pierre de chemin de fer.*)

Thomas Temple and James H. Miller, Fredericton, N. B., 7th. March, 1891; (Extension of Patent No. 5,916).

No. 12,462. Railway Flange Cleaner. (*Chasse-pierre de chemin de fer.*)

Thomas Temple and James H. Miller, Fredericton, N. B., 8th March 1881; (Extension of patent No. 5,916).

No. 12,463. Improvements on Pressed Brick Machines. (*Perfectionnements aux machines à brique pressée.*)

Zéphirin Vanier, Westborough, Mass., U. S., 8th March 1881; for 5 years.

Claim.—1st. The combination of the plunger L and the endless band O having the described connection with the shaft of the revolving table, whereby it has intermittent motion in connection therewith. 2nd. In combination with the plunger L, the endless band O having a fixed drum Ot, and the moveable drum O2 adapted to be lifted and depressed, in connection with said plunger. 3rd. The combination of the lifting frame r r, the cam wheel Q and the shaft N. 4th. The combination of the arm t, stud 2 and cam wheel Q. 5th. The combination, with the pug-mill F and the revol-

ing table C, of the blade I operated in connection therewith. 6th. The combination, with the pug-mill, of the shaft H and the connecting bevelled gears with the bevelled gear J and spring L. 7th. In combination with the walking beams R R', the levers y y' and the cam G. 8th. The combination, with the bar W having the offset 18, of the stud 17, of the wheel U. 9th. The combination of the inclined flange 19 and the notch 20 on the bar W. 10th. The combination of the blocks X, the plungers, the piston 2J and the springs.

No. 12,464. Improvements on Electric Lamps. (*Perfectionnements aux lampes électriques.*)

John W. Swan, Newcastle upon Tyne, Eng., 8th. March, 1881: for 5 years.

Claim.—1st. Forming the carbon or carbons of an electric lamp, from cotton thread converted by the action of sulphuric acid, and carbonized by subjecting it to heat in a vessel or receptacle containing powdered carbon, or other powder which will prevent the oxidation of the material under treatment. 2nd. Constructing carbons formed from cotton thread, with thickened terminations by wrapping the ends with strips of bibulous paper, muslin, or other suitable material, and then submitting the cotton thread so treated to the action of the sulphuric acid, and afterwards carbonizing it by subjecting it to heat in a vessel or receptacle containing powdered carbon, or other powder which will prevent the oxidation of the material under treatment. 3rd. Binding the ends of the cotton thread to the conducting wires, and subjecting the same to the converting and carbonizing processes. 4th. The employment, in an electric lamp, of multiple carbons formed of curved filaments. 5th. The production of carbons for electric lamps from cotton thread, compressing the cotton thread so as to render it perfectly uniform in texture and section throughout its length. 6th. The production of carbons for electric lamps from cotton thread, flattening the cotton thread in order to obtain an increased superficial area. 7th. Constructing the carbons of compound thread as described.

No. 12,465. Improvements on Bicycles. (*Perfectionnements aux vélocipèdes.*)

Edouard C. F. Otto, London, Eng., 8th March, 1881; for 5 years.

Claim.—1st. In a bicycle or velocipede, the endless driving bands a made of thin metal and adapted to be slightly loosened and tightened for steering purposes. 2nd. The construction and arrangement of the steering gear, consisting of steering handles b, secondary handles b', bevel gears c, sectional bevel wheel c', steering rods e, screws f, tubular links g, spiral spring 7, collars 8, connecting rods 9 and lever 1st. 3rd. The construction and arrangement of the crank axle bearings comprising s a d bearings 3, perforated tubes f' and hollow sockets g. 4th. The adaptation of such improvements to velocipedes in general.

No. 12,466. Improvements in Waggon. (*Perfectionnements aux voitures de roulage.*)

John O'Neil, Pakenham, Ont., 8th March, 1881; for 5 years.

Claim.—1st. The box of a convertible agricultural waggon, made in two parts B C which are pivoted or hinged to the body frame A by the pivots a b respectively, and gusset pieces c with their standards d d'. 2nd. The hopper D attached to the body frame A and pivoted with the draw gate E, and the rear side h secured on place by the pins p p' and having formed in it the slots f. 3rd. The arrangement and combination with the rear side h, of the agitator bar H in which are fixed the studs e, and which is attached by the spiral springs c to the cross bar d' of the sliding frame b'. 4th. The arrangement and combination of the hopper D, distributing roller F with its beaters v, cross-lead G with its fingers q a d handle r.

No. 12,467. Improvements on Lamps. (*Perfectionnements aux lampes.*)

Frederick R. Cole, Montreal, Que., (Assignee of Charles T. Spencer, Rochester, N. Y., U. S.) 9th. March, 1881; (Extension of Patent No. 6,707.)

No. 12,468. Improvements in Brick Machines. (*Perfectionnements aux machines a brique.*)

Joseph Close, Woodstock, Ont., 9th. March, 1881; (Extension of Patent No. 886.)

No. 12,469. Improvements on Pruning Implements. (*Perfectionnements aux sécateurs.*)

John M. Bailey, Bellerica, Mass., U. S., 9th. March, 1881; for 5 years.

Claim.—1st. In a pruning implement, a pole A having a fixed chisel B on one end, in combination with the projecting spindle C and hammer D sliding thereon.

No. 12,470. Improvements on Piano-Fortes. (*Perfectionnements aux forte pianos.*)

Theodore A. Heintzman, Toronto, Ont., 9th March, 1881; for 5 years.

Claim.—1st. An iron frame provided with a continuous bridge having a longitudinal groove cut in its base, in combination with a brass plate, or bead secured to the bridge on one side of the said groove, and forming a ringing point for the strings which pass over it and the groove referred to, thence through holes in the bridge to the turning pins.

No. 12,471. Attachment for Axe and Tool Handles. (*Disposition aux manches des haches et outils.*)

George P. Morrill, Canterbury, N.H., U. S., 9th. March, 1881; for 5 years.

Claim.—1st. The collar a with shank b, screws c, nut f and a double or single wedge d for holding axes and other tools upon their handles.

No. 12,472. Improvements on Ventilating Apparatus. (*Perfectionnements aux appareils de ventilation.*)

John R. McKinnon, North Wakefield, Que., 9th. March, 1881; for 5 years.

Claim.—1st. In an apparatus for ventilating rooms and sick wards, the

combination with a chimney flue A, of eduction pipe F, with inlets G, lantern D, lamp E, induction pipe H and water chamber I provided with outlets b d, whereby the burning lamp induces the entrance of cold air a and c creates a current to carry off the foul air, the odor of the lamp escaping into the flue.

No. 12,473. Improvements on Spring Carriages. (*Perfectionnements aux voitures à ressorts.*)

Adam Warnock, Galt, Ont., 9th March, 1881; for 5 years.

Claim.—1st. A lug B forged, or otherwise formed upon the axle A, near the collar F, in combination with a draw jack C, provided with a shank and supporting the shackle E.

No. 12,474. Sap Bucket. (*Seau pour l'eau d'érable.*)

Lucratus H. Lawrence, Granby, Que., 9th March, 1881; for 5 years.

Claim.—1st. A sap bucket having four straight or flat surface sides meeting and joining each other at right angles. 2nd. The combination of the body A with cover B, and the journals D D.

No. 12,475. Improvements on Instruments for Setting Buttons. (*Perfectionnements aux outils à poser les boutons.*)

George W. Prentice, Providence, R. I., U. S., 9th March, 1881; for 5 years.

Claim.—1st. A setting instrument composed of the jaws B C, operated by handles D E, the upper jaw B having recess F provided with slot G for the reception of the button and fastening, and the lower jaw C being provided with a die K, constituting the clinching mechanism.

No. 12,476. Improvements on Reflecting Ovens. (*Perfectionnements aux fourneaux à réflexion.*)

William A. Austin, Gloucester, Ont., 9th March, 1881; (Extension of Patent No. 12,390.)

No. 12,477. Improvements on Reflecting Ovens. (*Perfectionnements aux fourneaux à réflexion.*)

William A. Austin, Gloucester, Ont., 10th March, 1881; (Extension of Patent No. 12,390.)

No. 12,478. Improvements on the "Maxwell Reaper." (*Perfectionnements à la moissonneuse dite "de Maxwell."*)

David Maxwell, Paris, Ont., 10th March, 1881; (Extension of Patent No. 8,275.)

No. 12,479. Improvements on the "Maxwell Reaper." (*Perfectionnements à la moissonneuse dite "de Maxwell."*)

David Maxwell, Paris, Ont., 11th March, 1881; (Extension of Patent No. 8,275.)

No. 12,480. Improvements on Fences. (*Perfectionnements aux clôtures.*)

Alfred F. Allan, London, Ont., 11th March, 1881; (Extension of Patent No. 5,778.)

No. 12,481. Improvements on Car Axle Boxes. (*Perfectionnements aux boîtes des essieux des chars.*)

Charles Barrett, Somerville, Mass., U. S., 11th March, 1881; for 5 years.

Claim.—1st. In combination with a railway car journal box, and the moveable bearing plate between such journal and the top of the box, one or more adjustable stops to prevent escape of said plate. 2nd. The dust guard G with its collar f, in combination with the axle box. 3rd. In combination with a car axle box having a frame on its rear end and rods c, which pass through said frame, a cylindrical dust excluding collar provided with lugs through which said fastening rods pass, said collar being formed in one piece and extending beyond the rear end of said frame, so as to receive the thrusts of the wheel hub. 5th. In car axle boxes, a shell or other obstruction erected upon the floor of the oil well or cellar outside of the journal, to prevent the crowding forward of oiled waste in said cellar. 6th. The ring plate or dust guard, in combination with the journal box or housing, and encircling the journal, being of sufficient size to cover at all times the space between the elliptical opening in the said box, and when confined to such box by suitable guides which permit it, the ring, to slide vertically upon the box. 7th. The collar e tightly enclosing the axle journal and disposed against the wheel hub. 8th. In combination with a railway car axle box, the ears g, as extending sideways from the top of the guiding ribs, in order to adapt the top surface of the box to the support of those springs. 9th. One or more loose washers b b.

No. 12,482. Improvements on Harvesters. (*Perfectionnements aux moissonneuses.*)

Joshua L. Abell, Chicago, Ill., U. S., 11th March, 1881; for 5 years.

Claim.—1st. In combination with loop B, having set screw E, and with studs D D' and section F, the box G and follower A, forming a compressing mechanism to transmit the elasticity of the rubber, or equivalent spring, to all of the journal surfaces of the link. 2nd. In combination with the sickle bar and with the finger bar, the rub iron L, provided with the bearing point o, arranged to receive the rear edge of the sickle bar at the end of its sweep, each way. 3rd. The rub iron L having an arched connection with its bearings.

No. 12,483. Method for Raising Sunken Vessels, Raising, Lowering and Transporting Heavy Weights, and Loading and Unloading Vessels.
(Méthode pour relever les vaisseaux coulés bas, monter, descendre et transporter les corps lourds, et charger et décharger les vaisseaux.)

Henry F. Brion, London, Eng., 11th March, 1881; for 5 years.

Claim.—1st. The arrangement for raising sunken vessels, or other submerged bodies, consisting essentially in the employment of one or more levers for the purpose of raising by means of ropes, chains or cables attached to the submerged body and passing over the ends of the lever or levers and wound upon a winch, windlass or capstan, and one or more levers for the purpose of sustaining the partly raised vessel or body, by means of ropes, chains, or cables attached to the submerged body and passing over the ends of the lever or levers, and wound upon a winch, windlass or capstan, whilst the first named lever or levers is or are lowered for another hoist or lift. 2nd. The arrangement wherein a fixed support or pivoted arm is used for sustaining the submerged body, whilst the raising lever or levers is or are lowered into position for lifting. 3rd. The arrangement wherein both levers or sets of levers are employed for lifting each lever or sets of levers alternately, acting as a supporting lever or levers. 4th. The arrangement to which two vessels or floating bodies are employed, placed either at right angles to one another or in the same line, one for the purpose of supporting the levers, and the other for winding up the ropes, chains or cables. 5th. The arrangement for raising, lowering, and transporting heavy weights, in which the levers are carried in a truck or wagon. 6th. The arrangement for raising or lowering and transporting heavy weights, in which the levers are carried in one truck or wagon, and the winches are carried in another truck or wagon. 7th. The arrangement for shifting the levers on their fulcrums by means of racks and pinions. 8th. The arrangement for shifting the levers on their fulcrums by means of attaching ropes, chains, or cables to the ends of the levers, and winding them upon a winch, the said levers being fixed in position when at work by means of pins or bolts passing through shoes into holes pierced in the levers. 9th. The arrangement of supporting the levers upon a tripod or other suitable frame.

No. 12,484. Improvements on Fire Kindlers.
(Perfectionnements aux allumoirs.)

David B. Goewy, Lyons, N. Y., U. S., 11th March, 1881; for 5 years.

Claim.—1st. A porous block for fire kindling purposes, consisting of fire sand two parts, and fire clay one part or thereabouts, and a small quantity of saw dust or bran. 2nd. The process of manufacturing fire torches or kindlers, consisting in first mixing fire sand, fire clay, saw-dust or bran, and water in or about the proportions named, then moulding the plastic mass into any suitable form, then perforating them, then burning or baking them at a white heat, lastly, supplying them with handles.

No. 12,485. Improvements in Boots. (Perfectionnements dans les bottes.)

Edward Roos, Galt, Ont., 11th March, 1881; for 5 years.

Claim.—1st. A boot provided with a felt sole placed between the lower sole and insole, and filling the space formed at the seam, between the upper and sole of the boot. 2nd. A felt lined boot in which the bottom of the lining is sewed between the insole and the upper, from thence fitting closely to the form of the foot, until it reaches the seam joining the leg to the foot of the boot, at which point it projects through the boot, forming a water tight joint, the leg of the boot being sewn on the inside, so that the joint will not impede the passage of the foot into the boot.

No. 12,486. Improvements on Fertilizer Distributors. (Perfectionnements aux distributeurs d'engrais.)

Thomas Chambers, Woodstock, Ont., 11th March, 1881; for 5 years.

Claim.—1st. In a fertilizer distributor, the combination, with a hopper having one concave portion F, of the bottom fixed thereto, the movable concave portion G, and crank screws H H.

No. 12,487. Improvement on Ploughs. (Perfectionnement aux charrues.)

George Ross, Chatham, Ont., 11th March, 1881; for 5 years.

Claim.—1st. In a centre draft plough, the combination of the adjustable beam c, bar or pivot x, flange piece D and brace F. 2nd. In combination, with the above, the screw N, and flange o. 3rd. The combination of the adjustable beam c, bent pieces I I, screw J, slotted bar E and nuts and washers L L.

No. 12,448. Improvements on Hand Seeders.
(Perfectionnements aux semoirs à bras.)

Charles E. Roemelen and Christian Rashley, New Hamburg, Ont., 11th March 1881; for 5 years.

Claim.—1st. The horizontal dished wheel H, having radial flanges I, said wheel alternately revolved, in opposite directions, by rod N and cord p winding and unwinding on hub K when the rod is reciprocated. 2nd. The seed slide F having slotted projections M, in combination with eccentric L, on the spindle of wheel H, for shaking the seed through the feed apertures. 3rd. The combination of the slide F and spring lever E, with the adjusting screw G for regulating the discharge of seed.

No. 12,489. Improvements on Railway Alarms.
(Perfectionnements aux alarmes des chemins de fer.)

Théodore Bélanger, St. Vincent de Paul, Que., 11th March, 1881; for 5 years.

Claim.—1st. The roller C with cog wheels D D₁, in combination with commutator A, and electro-magnet bell or gong A₁. 2nd. The springs No.

1 and No. 2, with pole I I₁, slots E₁ E₂, plates L and M, in combination with rail H H, slots E₁ E₂, covers G G, nuts K K; also in combination with the electric alarm box N, and wires M₁ M₂ M₃. 3rd. The roller C, with gong A₁, in combination with the springs No. 1 and No. 2; also in combination with the railway stations gongs.

No. 12,490. Improvements in Ear Trumpets.
(Perfectionnements aux cornets acoustiques.)

Stephen North, Syracuse, N. Y., U. S., 11th March, 1881; for 5 years.

Claim.—1st. The combination, with the resonant shell A, of the transmitting tube B, provided with the wire netting or drum head b. 2nd. The combination of the resonant shell A having the depression c, and the tube B arranged opposite the said depression. 3rd. The combination, with the shell A and tube B, of the furcated wire r. 4th. The combination of the shell A provided with the netting or screen e and with the depression c; the tube B, arranged within the shell A and having one end directly opposite the depression c, and provided with a drum-head b having a central aperture s, the opposite end f of the tube protruding through the shell, and adapted for application to the ear, and the furcated wire r extended from the crown of the shell A into the aforesaid tube. 5th. The combination, with the shell A, of the ring d and the interchangeable wire nettings e, e₂.

No. 12,491. Railway Crossing Gate. (Barrière de traversée de chemin de fer.)

Henry A. Stearns, Lincoln, R. I., U. S., 11th March, 1881; (Extension of Patent No. 5,929.)

No. 12,492. Improvements in Electric Lighting. (Perfectionnements dans l'éclairage électrique.)

Henry C. Spalding, Bloomfield, N. J., U. S., 11th March, 1881; for 5 years.

Claim.—1st. The employment of assemblages or groups of electric lights, each group of a number of lights massed together and supported in an elevated position above the roofs of buildings, and the several groups arranged in such proximity to one another, as to light the spaces intervening between them. 2nd. The improvement in the art of lighting towns by electricity, by means of light towers arranged in triangular groups of three or more, each tower supporting a lantern containing a group of electric lights with suitable reflectors for deflecting and diffusing the lights.

No. 12,493. Improvements in Electric Lighting. (Perfectionnements dans l'éclairage électrique.)

Henry C. Spalding, Bloomfield, N. J., U. S., 11th March, 1881; for 5 years.

Claim.—1st. The system of lighting towns, by groups or assemblages of electric lights massed together and supported in an elevated position, which consists in subdividing the group of lights into lesser groups, each subgroup being in an electrical circuit, distinct from, and independent of the others, and the lights composing each subgroup being so selected as to be interspersed with, and separated from one another by the lights of other subgroups.

No. 12,494. Improvements in Ground Augers.
(Perfectionnements aux sondes de tarières.)

William Stephenson, Jordan, Ont., 12th March, 1881; for 5 years.

Claim.—1st. In combination with the tube A, the central rod G passing through the centre of the same and terminating in a screw point. 2nd. In combination with the maleable iron disc C D, the sharp steel edge bits E F attached thereto, and turned up on the outer edge. 3rd. The oval ventilating holes I I in the disc. 4th. In combination with an earth boring auger, the screws H H made separate and of different pitches, and screwed into the bottom of the auger, the screws having single or double threads. 5th. The combination of disc C D, bits E F, screw points H or H₁, tube A or tubes, and handle B to form an earth auger. 6th. The combination of the tube A, disc C D, bits E F, screw pointed rod G and handle B.

No. 12,495. Improvements on Life Rafts.

(Perfectionnements aux radcaux de sauvetage-)

Thomas B. Griffith, Carva, Mass., U. S., 12th March, 1881; for 5 years.

Claim.—1st. In a life raft, the combination of cross-bars of cork, or other buoyant material, battened or otherwise confined between two surfaces of wood, or other material, longitudinally connecting ropes b and the cork floats c strung upon, or otherwise secured to said ropes between the cross-bars, all arranged to form open compartments or sections d. 2nd. The combination, in a life-raft, of the buoyant cross-bars, the longitudinal connecting ropes b and the cork floats strung or otherwise secured thereto, with the life belts n secured to the cross-bars and within the sections d.

No. 12,496. Improvements in Bottle Washers. (Perfectionnements aux laveuses des bouteilles.)

William W. Horner and Horatio J. Higgins, London, Eng., 12th March, 1881; for 5 years.

Claim.—1st. The construction and application to rotary machines for washing, rinsing and draining bottles, jars and like articles, of a moveable water pipe carrying spikets or jets and a stop cock, the whole arranged so that, by a movement of a hand lever, the jets are automatically projected into a row of bottles, the stop cock being at the same time opened for supplying water to rinse the bottles, and the motion of the said hand lever for revolving the drum, withdrawing the said jets from the bottles and closing the stop-cock. 2nd. The construction and application to an apparatus so constructed, of a number of brushes for brushing the interior of the bottles. 3rd. In a rotary bottle washing apparatus, a moveable guard or cradle to allow of the machine being used for bottles of different lengths.

No. 12,497. Improvements in Window Blinds.*(Perfectionnements aux jalousies.)*

Elliott Metcalf, Port Huron, Mich., U.S., 12th March, 1881; for 5 years.

Claim.—1st. The hanger C constructed with lower straight slotted bar A, curved upper bar B, stop bar C and recess D. 2nd. The hanger C in combination with the book D, screw-eye or ring F and adjusting cords G (i. 3rd. The cross-bar H woven through webbing cord lace, or other material woven, looped or knotted, or both woven and knotted for the purpose of strengthening and shifting the position of the blind.

No. 12,498. Improvements on Machines for Drying Printed, Varnished, or Gummed Sheets.*(Perfectionnements aux machines à sécher les feuilles imprimées, vernies ou gommées.)*

Lonis A. Fernow, Chicago, Ill., U.S., 12th March, 1881; for 5 years.

Claim.—1st. In a continuous drying machine, the combination of endless chains and transverse supporting wires driven by such chains, whereby a large number of sheets or other objects can be carried forward, simultaneously, and returned to or near the starting point. 2nd. The combination of the slow and fast moving chains, with the cross wires, whereby the movement of the drying sheets will be alternately retarded and accelerated. 3rd. The combination of the endless slow and fast moving chains, with the endless ways, the carriages travelling upon such ways and the cross wires connecting the carriages, such ways following the fast and slow chains alternately. 4th. In a continuous drying machine wherein the sheets are carried upwardly from near the floor towards the ceiling, and horizontally along near the ceiling and are returned to or near the starting point, the combination of slow moving chains for moving the sheets horizontally, and fast running chains at both the front and rear ends of the machine, for moving the sheets vertically. 5th. The combination with the driving chains, of the ways D supported by brackets and the connected carriages G. 6th. The combination, with the chains, the ways and the connected carriages, of the brakes or springs K for retarding the downward movement of the carriages. 7th. The points upon which the sheets are hung.

No. 12,499. Improvements in Cards and Needles for Mariners' Compasses.*(Perfectionnements aux boîtes et aux aiguilles des boussoles.)*

Frederick A. Brown, John Lewis, Boston, and Edward Cunningham, East Milton, Mass., U.S., 12th March, 1881; for 5 years.

Claim.—1st. A magnetic needle tapering at its poles and rectangular in shape between them, and slotted in its body. 2nd. A mariners' compass card having a magnetic needle and provided with "horse-shoe" or U-magnets arranged in the card circumferentially, and with all their poles in, or about in the circumference of a circle concentric with the card and having the north pole of each magnet toward the south pole of the magnetic needle of such card. 3rd. A mariners' compass card having a magnetic needle and provided with "horse-shoe" or U-magnets arranged on it, the said card circumferentially and with all their poles in or about in the circumference of a circle concentric with the card, and having the north pole of each magnet toward the south pole of the needle, and the magnets of the east and west points stronger in their magnetic power than either of the others in sets thereof.

No. 12,500. Improvements on Steam and Hot Water Furnaces.*(Perfectionnements aux fourneaux à vapeur et de chauffage.)*

Edward Gurney, jr., (Co-inventor with Charles Sellers), Toronto, Ont., 12th March, 1881; for 5 years.

Claim.—1st. In a base burning stove or heater, a series of water compartments arranged around the coal feeder and forming a smoke flue leading from the fire pot to the exit pipe, in combination with partitions placed in the flue at certain intervals, for the purpose of directing the course of the smoke around the water compartments. 2nd. In a base burning stove or heater, a circular water compartment surmounting the fire-pot and connected to sectional water compartments constituting the body of the stove and having internally projecting water spaces fitting around the coal feeder to form a smoke flue.

No. 12,501. Improvements in Baling Presses.*(Perfectionnements aux presses à empaqueter.)*

Peter K. Dederick, Albany, N.Y., U.S., 12th March, 1881; for 5 years.

Claim.—1st. The lever P in combination with the movable fulcrum Q, when said fulcrum is constructed and located, wholly or in part, underneath the lever, so as to operate in the plane of the lever. 2nd. The lever P in combination with the central movable fulcrum Q pivoted between its sides. 3rd. The central movable fulcrum Q having an opening through it for the convenient operation of the rope T. 4th. The central movable fulcrum Q in combination with the rope T. 5th. The central movable fulcrum Q in combination with the lever P and the follower R. 6th. The lever P, rope T and sheave d, in combination with the central movable fulcrum Q. 7th. The rollers, in combination with the rope T and central movable fulcrum Q. 8th. The roller j, in combination with the rope T and power girts O. 9th. The guides I, or their equivalent, in combination with the levers P. 10th. The jointed looped door fastener m. 11th. The lever and slides N in combination with the jointed looped door fastener m. 12th. The lever and slide n, in combination with the door L and jointed looped door fastener m. 13th. The brackets h in combination with the door L and posts A. 14th. The jointed looped door fastener m in combination with the door L. 15th. The combination of the doors L and posts A with the jointed looped door fastener m. 16th. In combination with the frame of the press, the truss rods F when supported by the rods X Y. 17th. In combination with the fulcrums Q and pins, or supports at the base, the friction rollers W in combination with the rope.

No. 12,502. Improvements in Window Blinds.*(Perfectionnements aux jalousies.)*

Edward W. Bowslough, Grimsby, Ont., 12th March, 1881; for 10 years.

Claim.—1st. A window blind composed of slats hung from a top rail carried in supports by pins placed excentrically. 2nd. The combination, with the slats A and bands B, of the fasteners C. 3rd. The fasteners C with turned down ends to the prongs.

No. 12,503. Improvements in Boiler Furnaces and Boilers.*(Perfectionnements aux chaudières et aux fourneaux des chaudières.)*

William M. Fisher, Cincinnati, Ohio, U.S., 12th March, 1881; for 5 years.

Claim.—1st. In a boiler furnace, the hollow water partition provided with legs of different lengths projecting from its upper side and applied to the boiler. 2nd. The hollow water partition arranged below the body of the fluid with which it is directly connected, having at one end of its upper side, a short leg communicating with the lower portion of said body of fluid, and at the other end thereof a long leg extending into the upper portion of, or above said body of fluid. 3rd. The hollow water partition arranged below the body of the fluid with which it is directly connected, having at one end of its upper side a short leg communicating with the lower portion of said body of fluid, and at the other end thereof a long leg extending into the upper portion of, or above said body of fluid and having a curved extremity. 4th. In a steam boiler, the water partition provided with water legs, one terminating flush with the crown sheet of the fire-box, and the other, on the opposite side, extending into the steam space of the boiler, in combination with an auxiliary combustion chamber between the said water chamber and the tube sheet, the said chamber being provided with a hinged perforated bottom allowing air in jets, whereby a more perfect combustion is produced, and a better circulation of water is maintained. 5th. The combination of a steam boiler or other means for holding a fluid to be vaporized or evaporated, the fire chamber, the hollow partition at the rear end of the fire chamber and constructed with hollow legs, one of which opens into the lower part of the water space, while the other extends to the steam space, or thereabout, and one or more pendant hollow similarly legged partitions beyond the fire chamber. 6th. The combination of a steam boiler or other means for holding a fluid to be vaporized or evaporated, the fire chamber, the hollow partition at the rear end of the fire chamber and constructed with hollow legs, one of which opens into the lower part of the water space, while the other extends to the steam space or thereabout, the second combustion chamber, and a pendant similarly legged partition in said second combustion chamber. 7th. The combination of the fire chamber of a furnace, and the combined circulator and evaporator suspended above the grate surface thereof and having a short leg, at one end, connecting with the lower portion of the water above the fire chamber, and a long leg, at the other end, extending into the water, to near the water line or into the steam space. 8th. A combined circulator and evaporator for steam boilers and other contrivances for vaporizing or evaporating liquids, having a short leg at one end connecting with the lower portion of the water in the boiler, a long leg at the other end extending to near the water line or into the steam space, and a current directing plate.

No. 12,504. Improvements on Pumps.*(Perfectionnements aux pompes.)*

Julius A. Pease, Boston, Mass., U.S., and Ernest D. Manché, Toronto, Ont., 12th March, 1881; for 5 years.

Claim.—A pump with a corrugated or grooved cylinder and piston, in combination with a rubber ring.

No. 12,505. Apparatus for Decomposing Steam and Burning the Gases Thereof.*(Appareil pour décomposer la vapeur et en brûler les gaz.)*

Byron Sloper and Walter M. Jackson, New York, U.S., 12th March, 1881; for 15 years.

Claim.—1st. In the production of heat, the process of decomposing water by injecting the same in a vaporized condition, either with or without the admixture of either liquid or sub-divided fuel into or upon solid or porous carbonaceous material located in a combined decomposing retort and combustion chamber constructed for the purpose, whereby mutual decomposition of the water and fuel into hydrogen and carbonic oxide is effected by causing the vaporized water either alone, or in conjunction with the liquid or sub-divided fuel, to hug the surface of the solid, or porous carbonaceous material, and be brought into intimate contact with the same. 2nd. The process of burning liquid or sub-divided fuel in conjunction with the gases, resulting from the decomposition of water by atomizing and injecting such fuel in conjunction with a current of steam upon a bed of solid or porous carbonaceous material, heated to an intense white heat, in a suitable decomposing retort and combustion chamber combined, whereby the mutual decomposition of the steam and fuel into hydrogen and carbonic oxide, is effected by the successive and intimate contact of the steam and liquid or sub-divided fuel, upon the solid or porous carbonaceous material in the said decomposing retort and combustion chamber, and perfect combustion of the result and gases is effected, and the most intense heat produced. 3rd. The process of burning liquid or sub-divided fuel by atomizing and injecting the same, by means of a current of steam upon a bed of carbonaceous material heated to an intense white heat in a decomposing retort and combustion chamber, and causing it together with the gases generated to reverberate over or through the solid or porous carbonaceous material, so as to bring it together with the gases generated into intimate contact with fresh portions of solid or porous carbonaceous material. 4th. The process of burning liquid or sub-divided fuel by atomizing and injecting the same upon a bed of solid or porous carbonaceous material heated to an intense white heat, in a decomposing retort and combustion chamber combined, in conjunction with a current of air, and causing the whole to reverberate over and hug the solid or porous carbonaceous material, so as to bring the gases developed into intimate contact with the solid or porous carbonaceous material, whereby a thorough combustion of the liquid or sub-divided fuel is effected and an intense heat produced. 5th. In combination with a furnace for burning liquid or sub-divided fuel, a combined decomposing retort and combustion chamber having its interior provided with a series of salient and re-entering and deflecting surfaces to de-

fleet or reverberate the liquid or sub-divided fuel and the steam and the gases arising therefrom, and cause the same to come into intimate contact with fresh portions of the solid or porous carbonaceous material. 6th. The combination, in a furnace for burning liquid or sub-divided fuel and decomposing steam, of a decomposing retort and combustion chamber adapted to hold solid or porous carbonaceous material, the said decomposing retort and combustion chamber being made in sections of fire-tiles or other refractory materials, whereby it may be located in the furnace without removing the front or any other portion of the same. 7th. The combination, in a furnace for burning liquid or sub-divided fuel, of a decomposing retort and combustion chamber, adapted to hold solid or porous carbonaceous material and provided with a series of reverberating and deflecting surfaces on its interior, and a suitable injector for introducing liquid or sub-divided fuel, whereby the gases generated therefrom are caused "to hug" the surface of the carbonaceous material. 8th. The combination, in a furnace for burning liquid or sub-divided fuel, of a decomposing retort and combustion chamber adapted to contain solid or porous carbonaceous material with an atomizing injector for injecting liquid or sub-divided fuel into said retort and chamber, and suitable air passages whereby air, if necessary, may be introduced into the retort and combustion chamber, in conjunction with the liquid or sub-divided fuel with or without steam, and cause to reverberate over and "hug" the surface of the solid or porous carbonaceous material for the purpose of completing the combustion and intensifying the heat. 9th. The combination with the combined decomposing retort and combustion chamber, of an injector whereby atomized or sub-divided fuel in conjunction with a current of steam or air, or both, may be supplied to said retort and combustion chamber.

No. 12,506. Improvements on Harvesters Gavellers. (*Perfectionnements aux moissonneuses engerbeuses.*)

Albert S. Hoyt and Edward R. Millard, Chicago, Ill., U. S., 16th March, 1881; for 5 years.

Claim.—1st. The combination, with the elevator of a harvester, of an intermittently moving receiving apron. 2nd. The combination of the elevator and receiving apron with a drop having one or more prongs and adapted to be raised and lowered. 3rd. The combination of the receiving apron with mechanism adapted to automatically stop and start said apron. 4th. The binders table *M* extended upwardly at the back and provided with slots *m m*, in combination with the compressor *N* arranged to operate in connection therewith to form the cavel. 5th. In combination with the cavel forming mechanism of a harvester, a wire grain receiver projecting through the slotted binders table, arranged to lift any grain that may have fallen thereon out of the way of the r-turning compressor. 4th. The combination of devices for receiving the cut grain, and continuously operating devices for elevating the same, with devices for retaining or holding the grain on the receiver, while a separation of the grain to form the different gavels or sheaves is effected by the elevator.

No. 12,507. Improvements on Governors for Vulcanizing Apparatus. (*Perfectionnements aux gouverneurs des appareils à vulcaniser.*)

William E. Gwyer, New York, U. S., 16th March 1881; for 5 years.

Claim.—1st. In governors for vulcanizing apparatus, the combination of a spring opened gas-cock or valve, and a spring fitted for movement by the pressure in the steam box to close the cock. 2nd. The combination with the gas supply pipe of vulcanizing apparatus, of a cock or valve fitted for being closed by connections actuated directly by the pressure in the steam box. 3rd. The flexible diaphragm *b*, lever *g* and gas-cock having its stem connected with the lever combined together, and with hollow plug *A*, adapted for connection to the shell of a vulcanizer. 4th. The governor for

vulcanizers, consisting of the hollow spring *C*, gas-cock or valve *i*, turn buckle connections *l*, gas pipe *K* and hollow plug *A*. 5th. The combination, with governors for vulcanizers actuated by steam pressure, of an automatic relief cock or valve, for escape of air from the steam space.

No. 12,508. Improvements on Plough Beams.

(*Perfectionnements aux fleches des charrues.*)

James G. Cockshut, Brantford, Ont., 16th March, 1881; for 5 years.

Claim.—1st. A truss plough beam composed of the bars *A E D*, rivetted together and shaped as described, in combination with the plough head *G*, bolt *F* and ferrule *G*. 2nd. In combination with the plough head *G*, and clevis block or casting *B*, a truss girder plough beam. 3rd. The bars *A D* extending from the clevis block or casting *B* to the plough head *G*, and forming the top and bottom chords of a truss, in combination with the braces *E*, rivetted to, and set between the two bars *A D*, forming a truss girder plough beam.

No. 12,509. Improvements on Candy Packages.

(*Perfectionnements aux sacs à bon-bons.*)

Warren B. Howe, Chicago, Ill., U. S., 17th March, 1881; for 5 years.

Claim.—1st. The concave package-wrapper former of triangular, or of other shape, adapted to give shape to, and permit the folding of the wrapper. 2nd. A package former having a triangular or other shaped recess adapted to receive, hold and maintain the wrapper and contents, so that said wrapper may be folded and closed. 3rd. In the formation of packages, a pyramidal shaped wrapper consisting of a sheet of paper folded, or otherwise formed and adapted to be packed with its contents in a cylindrical receptacle. 4th. The described method of packing stick candy etc., in triangular shaped packages, consisting of first placing the wrapper *D* in the recess *B*, then placing the stick candy in the paper in said recess, until the bulk attains approximately the shape of said recess, then creasing and folding the wrapper against the ends of the sticks of candy, and finally removing the wrapper and contents from the recess, and completing the folding of the wrapper upon the candy to hold it in shape.

No. 12,510. Improvements on Apparatus for Breaking Flax, Hemp, &c.

(*Perfectionnements aux appareils à tiller le lin, le chanvre, &c.*)

George Milliken, Philadelphia, Pa., U. S., 17th March, 1881; for 5 years.

Claim.—1st. A rotating cylinder *D*, having an open or perforated periphery, and a fluted or grooved roller meshing with it. 2nd. The roller *K*, rotating on its axis on reciprocating bearings or arms, whereby the roller, as it rotates, is carried forward and backward on the cylinder *D*. 3rd. The gearing *E F*, imparting rotary motion to the cylinder *D*, in combination, with the driving shaft *C* with clutch mechanism, whereby the cylinder may be stopped at any point without stopping other motions of the machine. 4th. The swinging arms *J* carrying the roller *K*, in combination with the cranks *G*, adjustably connected to the arms *H*. 5th. The apron *L*, and cylinder *D*, in combination with gearing operated by the wheel *K*, meshing with the fluted or grooved periphery of said cylinder.

No. 12,511. Improvements on Milk Coolers.

(*Perfectionnements aux garde-lait*)

Ole C. Nunbson, Black Earth, Wis., U. S., 17th March, 1881; for 5 years.

Claim.—1st. A can *A*, tapering from top to bottom and divided into two chambers by diaphragm *D* and tube *E*, and provided with cover *F*, cap *G*, rim *H*, tube *I*, gauges *K L* and faucets *M N*.

List of Patents issued up to 7th April, 1881, but not yet Officially published in the Patent Office Record.

- No. 12,540. G. Seger and B. Bernet, Buffalo, N. Y., U. S. A., "Potato Digger," patented March 23rd, 1881.
- No. 12,541. A. C. Miller, Sparta, Ill., U. S. A., "Grain Binder," patented March 26 h. 1881.
- No. 12,542. W. A. Boyd, Strathroy, Ont., "Fire Escape and Fruit Ladder Combined," patented March 26 h. 1881.
- No. 12,543. T. Mich ut, St. Paul, Minn., U. S. A., "Grinding Mill," patented March 26 h. 18-1.
- No. 12,544. A. T. Woodward, New York, U. S. A., "Plastic Compound," patented March 26th, 1881.
- No. 12,545. H. W. Leeson, Normandy, Ont., "Diphtheria Liniment," patented March 26 h. 1881.
- No. 12,546. W. E. Tate, Parrsboro, N. S., "Platform Scales," patented March 26 h. 1881.
- No. 12,547. A. A. Burr and J. H. Powers, Rockdale, N. Y., U. S. A., "Saw," patented March 26th, 1881.
- No. 12,548. I. Newman, New Haven, Conn., (Assignee of A. Zorkowsky, New York, U. S. A.), "Corsets," patented March 26 h. 1881.
- No. 12,549. M. Bray, Newton, Mass., U. S. A., "Rivet Setter," (Extension of Patent No. 5,922), extended March 26th, 1881.
- No. 12,550. M. Bray, Newton, Mass., U. S. A., "Rivet Drill," (Extension of Patent No. 5,923), extended March 26th, 1881.
- No. 12,551. D. Maxwell, Paris, Ont., "Rake," (Extension of Patent No. 7,509), extended March 26th, 1881.
- No. 12,552. D. Maxwell, Paris, Ont., "Rake," (Extension of Patent No. 7,509), extended March 26th, 1881.
- No. 12,553. L. Bredanuz, Montreal, Que., "Tire Heating Machine," patented March 28th, 1881.
- No. 12,554. D. Murray, Jarvis, Ont., "Car Coupler," patented March 28th, 1881.
- No. 12,555. R. McMaugh, St. Catharines, Ont., "Steam Boiler Water Heater," patented March 28 h. 1881.
- No. 12,556. W. W. Mallory, Holland Patent, N. Y., U. S. A., "Hand Force Pump," patented March 28 h. 18-0.
- No. 12,557. G. W. Wood, (Assignee of C. H. Smith,) Fairbault, Minn., U. S. A., "Elevator," March 28th, 1881.
- No. 12,558. D. B. McDonald, Aylmer, Que., "Railway Track Lifter," (Extension of Patent No. 5,889), extended March 29 h. 1881.
- No. 12,559. G. Pye, Ottawa, Ont., "Harvester," patented March 30th, 1881.
- No. 12,560. D. Maxwell, Paris, Ont., "Reaper," (Extension of Patent No. 6,772), extended 31st March, 1881.
- No. 12,561. D. Maxwell, Paris, Ont., "Reaper," (Extension of Patent No. 6,772), extended 31st March, 1881.
- No. 12,562. W. Sargent, Holland, Ont., "Load Lifting Machine," patented March 31st, 1881.
- No. 12,563. R. Craig, Blythe, Ont., "Stave Knife," patented 31st March, 1881.
- No. 12,564. G. R. Kiddler, Arnada, Mich., U. S. A., "Sliding Door," (Re-issue of Patent No. 8,990), patented 31st March, 1881.
- No. 12,565. The Granular Metal Co., Nashua, N. H., (Assignee of B. J. Downs, Cambridge, Mass., U. S. A.), "Shell and Journal Bearing," March 31st, 1881.
- No. 12,566. E. J. Saylor, (Assignee of J. N. Rice, Pittston, Penn., U. S. A.), "Carriage Spring," patented March 31st, 1881.
- No. 12,567. T. A. Edison, Menlo Park, N. J., U. S. A., "Electric Machines," 31st March, 1881.
- No. 12,568. T. A. Edison, Menlo Park, N. J., U. S. A., "Electro-Magnetic Railroad," March 31st, 1881.
- No. 12,569. J. W. McDonald, Campbellton, N. B., "Ballasting Car," (Extension of Patent 6,13), extended April 4th, 1881.
- No. 12,570. G. D. King, Oswego, N. Y., U. S. A., "Manufacture of Paper Pulp from Wood," patented April 4th, 1881.
- No. 12,571. G. H. Reynolds, T. J. Rider, C. H. Delamater and G. H. Robinson, New York, U. S. A., "Steam Valve and Valve Gear," patented April 4th, 1881.
- No. 12,572. L. H. Hebert, Grand Ligne, Q., "Hay Press," patented April 4th, 1-81.
- No. 12,573. R. J. Hutchings and W. Trick, Swansea, and J. W. Hughes, London, Eng., "Metal Plate Heating, Pickling and Swilling Machine," patented April 4th, 1881.
- No. 12,574. O. Lugo, New York, U. S. A., "Solenoid Telegraph," patented April 4th, 1881.
- No. 12,575. F. P. d'Opdorp, Brussels, Belgium, "Line Measuring Instrument," patented April 4th, 1881.
- No. 12,576. J. Sherman, Chicago, Ill., U. S. A., "Tan Bark Preparing Process," (Extension of Patent No. 6,122), extended April 4th, 1881.
- No. 12,577. T. S. Hunt, Montreal, Que., and J. Douglas, jr., Phoenixville, Penn., U. S. A., "Process for Extracting Copper from its Ore," patented April 4th, 1881.
- No. 1,578. T. Gray, Oshawa, Ont., "Harrow," patented April 4th, 1881.
- No. 12,579. C. Goodyear, jr., (Assignee of C. Dancel), New York, U. S. A., "Sewing Machine B," (Extension of Patent No. 6,104), extended April 4 h. 1881.
- No. 12,580. C. Goodyear, jr., (Assignee of C. Dancel), New York, U. S. A., "Sewing Machine A," patented April 4th, 1-81.
- No. 12,581. W. and H. Turner, Montreal, Que., "Pantaloons Suspended," patented April 4th, 1881.
- No. 12,582. F. B. Nichols and C. Thomson, Halifax, N. S., "Rotator," patented April 4th, 1881.
- No. 12,583. D. Duncan Simcoe, Ont., "Bed Bottom," (Extension of Patent No. 5,943), extended April 6th, 1881.
- No. 12,584. H. A. Hannum, Cazenovia, N. Y., U. S. A., "Milk Pan," (Extension of Patent No. 5,896), extended April 6th, 1881.
- No. 12,585. E. E. Spencer, St. Armand East, Que., "Sap Bucket and Cover," (Extension of Patent No. 5,910), extended April 6th, 1881.
- No. 12,586. W. Brisley, Toronto, Ont., "Sidewalk Fastener," (Extension of Patent No. 5,913) extended April 6th, 1881.
- No. 12,687. J. H. Elward, Stillwater, Minn., U. S. A., "Horse Power," (Extension of Patent No. 11,174), extended April 6th, 1881.
- No. 12,588. J. H. Elward, Stillwater, Minn., U. S. A., (Extension of Patent No. 11 174), extended April 7th, 1881.
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- No. 12,594. L. Ribourt, Paris, France, "Apparatus for Preserving Alimentary Substances," patented April 7th, 1881.
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- No. 12,596. E. Osgood, Brooklyn, N. Y., U. S. A., "Saw," patented April 7th, 1881.
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- No. 12,599. J. Hall, Hamilton, Ont., "Railway Air Brake," patented April 7th, 1881.
- No. 12,600. C. D. Dewey, (Assignee of O. Cooley, Brookport, N. Y., U. S. A.), "Rake," patented April 7th, 1881.
- No. 12,601. J. E. Thomson, Buffalo, N. Y., U. S. A., "Car Door Hasp and Staple," patented April 7th, 1881.
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- No. 12,609. E. Meller, Kalamazoo, Mich., U. S. A., "Fence," patented April 7th, 1881.
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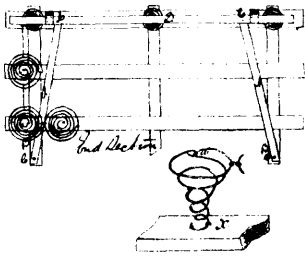
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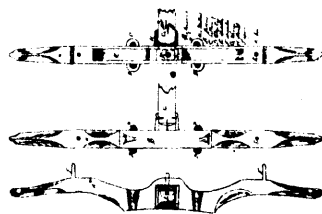
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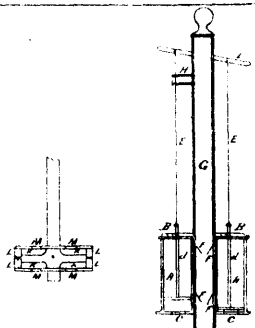
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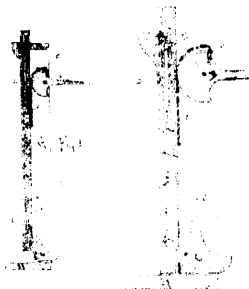
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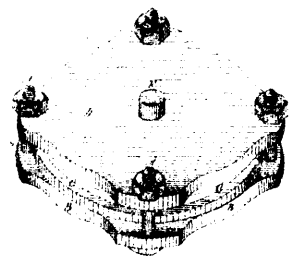
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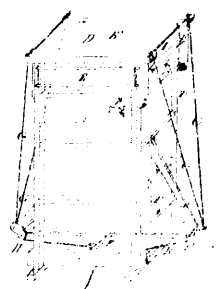
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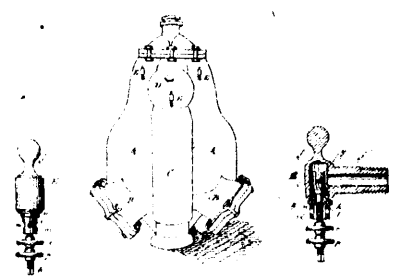
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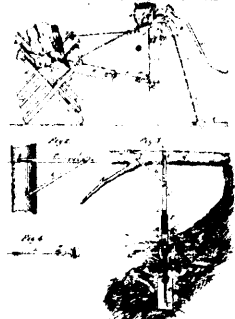
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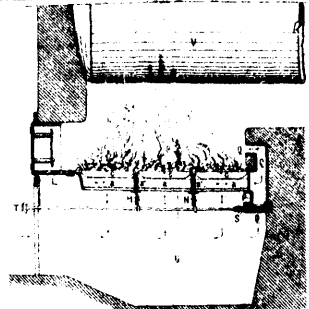
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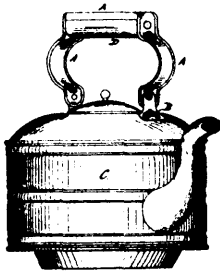
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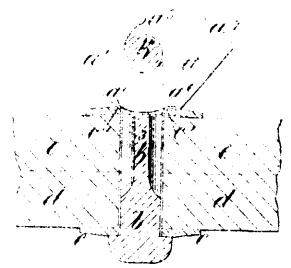
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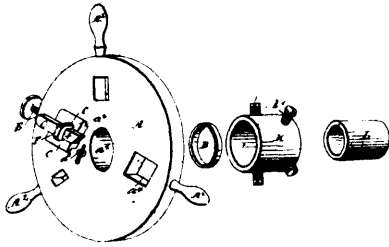
12383 Booth's Improvements on Kettle Handles.



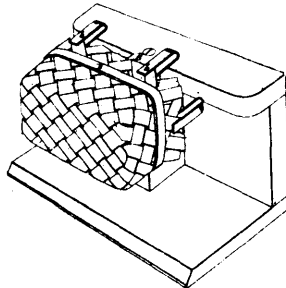
12384 McFaul's Improvements on Process and Tools for Making Horse Shoes.



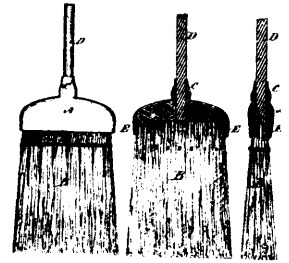
12385 Thompson's Substitute for Screw Bolts and Nuts.



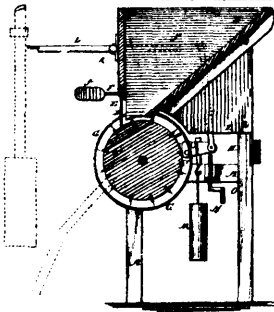
12386 Miller's Apparatus for Dressing Axle Arms of Waggon's.



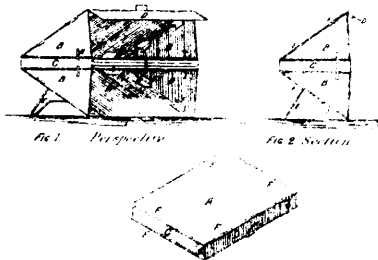
12387 Cross's Improvements on Appliances for Manufacturing Baskets.



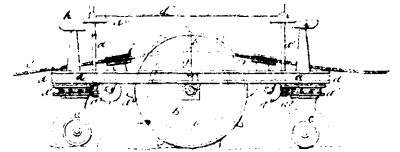
12388 Cuthbertson's Improvements on Brooms.



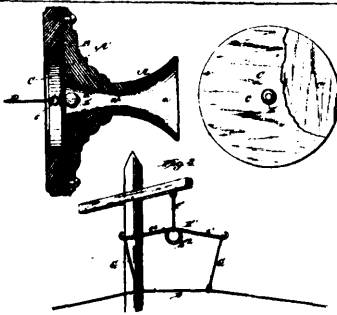
12389 Hammond's Improvements on Ore Feeders.



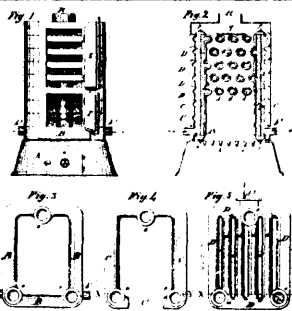
12390 Austin's Improvements on Reflecting Ovens.



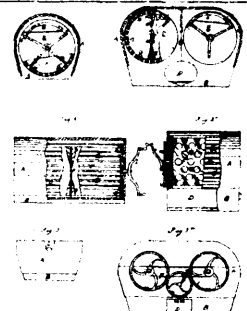
12391 Parsons's Apparatus for Cultivating Land by Steam Power.



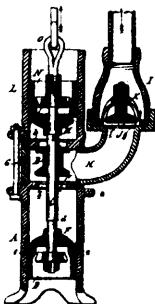
12392 Willard's Improvements on Telephones.



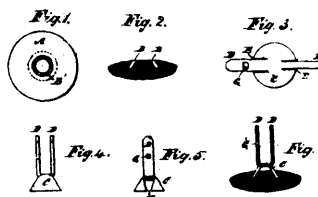
12394 Beupr6's Improvements on Heating Boilers.



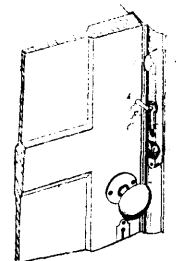
12395 Huntingon's Improvements on Washing Machines.



12386 Barnes's Improvements on Lifting and Force Pumps.



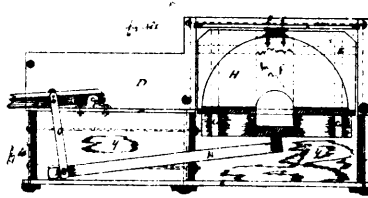
12397 Simonds's Improvements on Buttons.



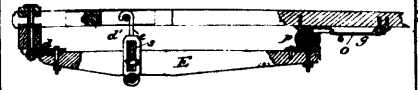
12398 Arndt's Improvements on Burglar Alarms.



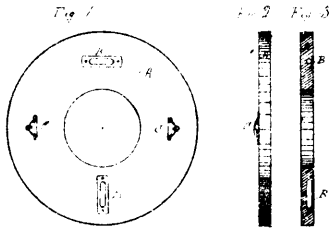
12399 Whelpley & Graves's Improvement in Skates.



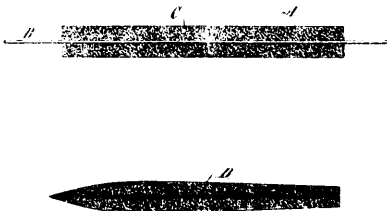
12400 Jasper & Hoover's Improvements on Platform Tire Coolers.



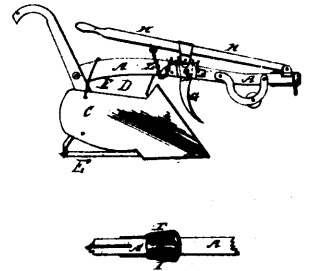
12401 Hébert's Improvements on Tongue (Pole) Supporters.



12402 Bcgrt & Milton's Improvement in Proof Staves.



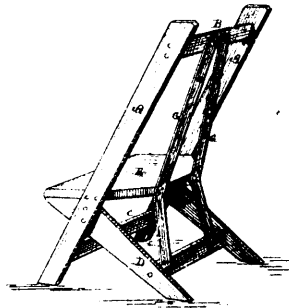
12403 Kaufmann's Improvements in the Manufacture of Cigars.



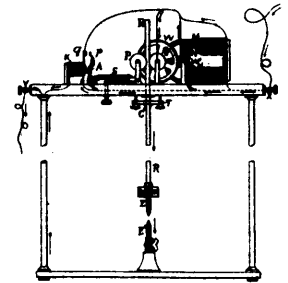
12404 Holley's Improvements on Swivel Ploughs.



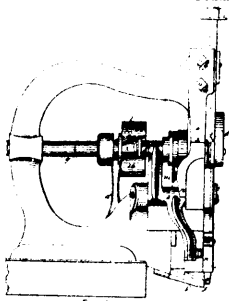
12405 Taylor's Improvements on Hatters' Irons.



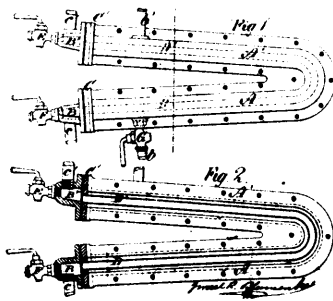
12406 Brown's Improvements on Chairs.



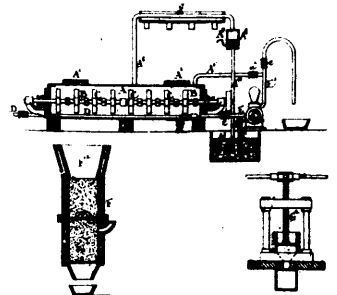
12407 Houston & Thomson's Improvement on Regulators for Electric Lamps.



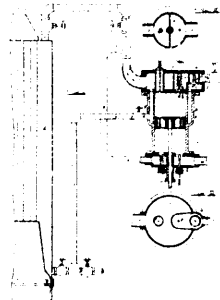
12408 Knowlton's Improvements on Nailing Machines.



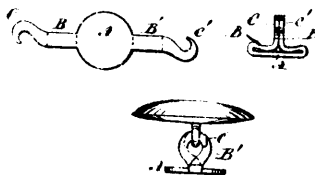
12409 Blumenberg's Improvements on Condensers.



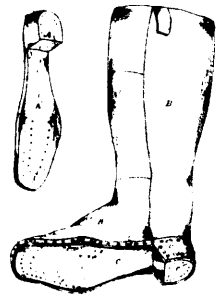
12411 Bell & Sloane's Process of Purifying Waxes, Resins, Gums and Fatty Matters.



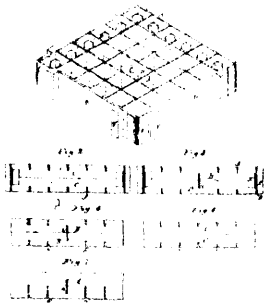
12412 Strange's Improvements on Combined Steam and Air Engines.



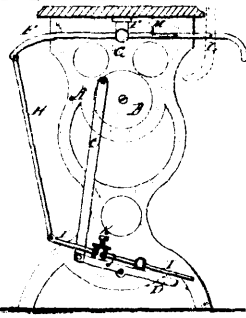
12413 Sproston's Improvements on Button Fasteners.



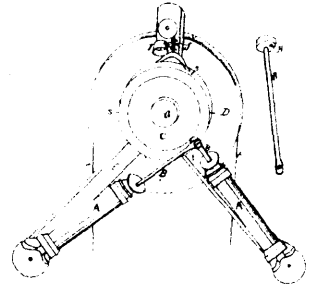
12414 McKellar's Improvements on Boot Soles.



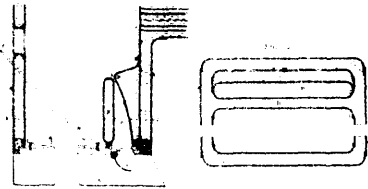
12416 Fogg's Improvements in Egg Carrier Trays.



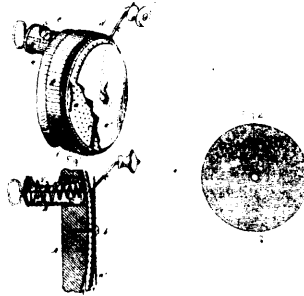
12416 Morton's Improvements on Sewing Machine Motors.



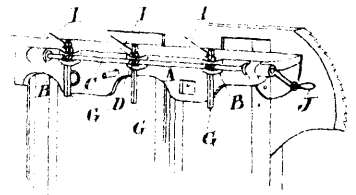
12417 Barlow's Improvements on Fire-escape.



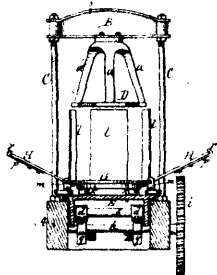
12418 Hall's Improvements on Smoke Consumers.



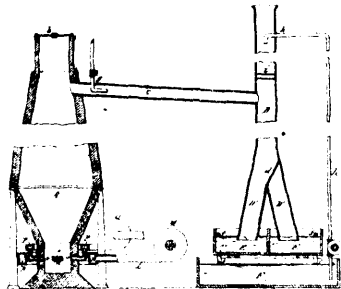
12419 Hill's Improvements in Nutmeg Graters.



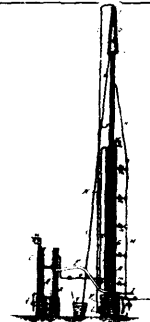
12420 Cowan & Ballantine's Improvements on Moulding Machines.



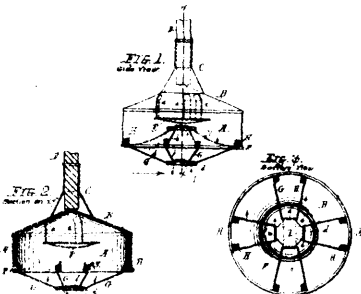
12421 Greenwood & Cole's Improvements on Machines for Packing Barrel Headings.



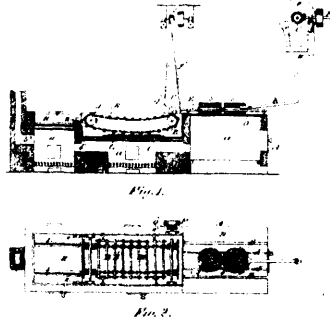
12422 Hall's Process and Apparatus for Extracting Metals from Ores.



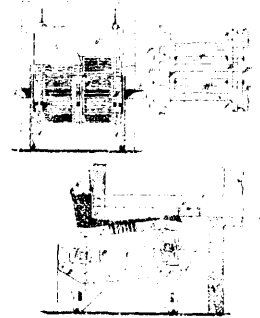
12423 Hall's Apparatus for Extracting Metals from Ores.



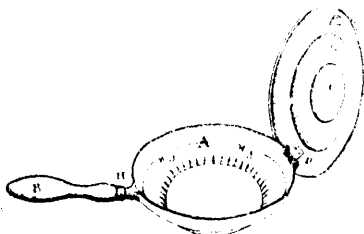
12424 Taylor's Improvements on Clothes Washers.



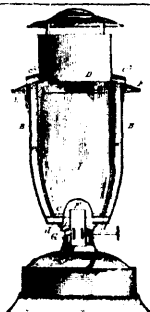
12425 Butler's Apparatus for Sulphurising Matches.



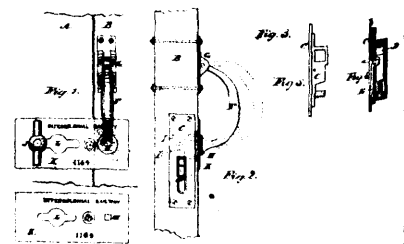
12426 Gillespie & Clegg's Improvements in Furnace Grates.



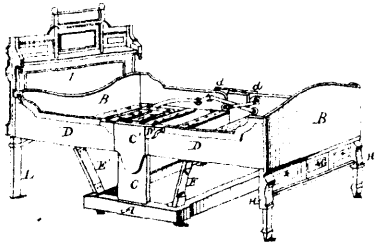
12427 Anderson & Arnold's Improvements on Combined Broilers and Fryers.



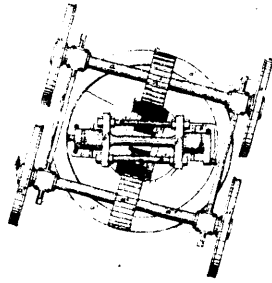
12428 C. A. Brown & Rankin's Improvements in Lanterns.



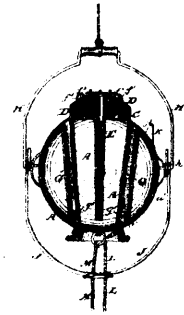
12429 Dewe's Improvements on Seal Locks



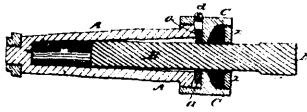
12430 Stanton's Improvements on Cabinet Bedsteads.



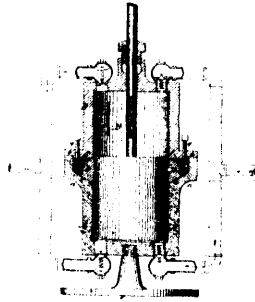
12431 Apsey's Apparatus for Driving Bogie Axles of Locomotive Vehicles.



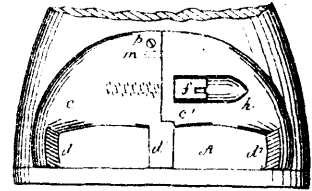
12432 Vansant's Improvements on Portals Shower Baths Apparatus.



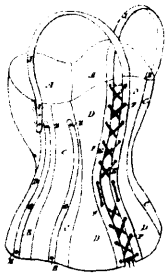
12433 Huggins's Improvements on Hub Attaching Devices.



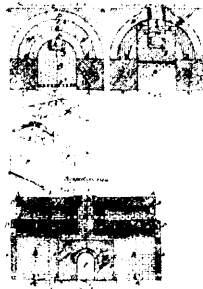
12434 Jay's Improvements on Pumps.



12435 Robarge's Improvement on Ice Weights for Horses.



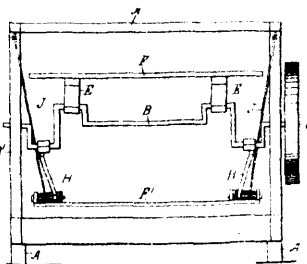
12436 Vermilyea's Improvements on Corsets.



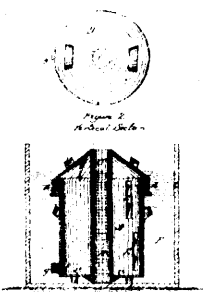
12437 Gill's Improvement in Gas Burning Furnaces.



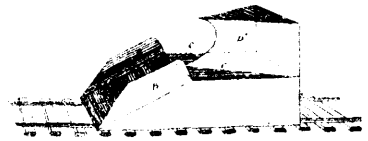
12438 Clark's Improvement on Paper Vencer.



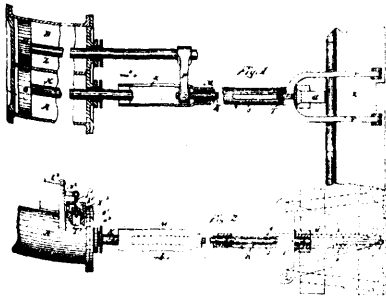
12440 Doherty's Improvements in Thrashing Machines.



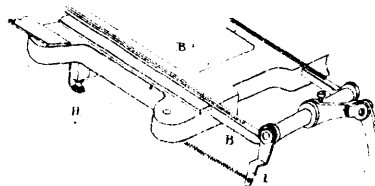
12441 Cherry's Improvements on Milk Pans.



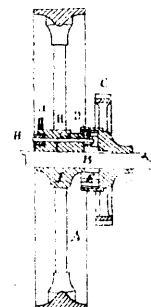
12442 Sturdy's Improvements on Snow Ploughs.



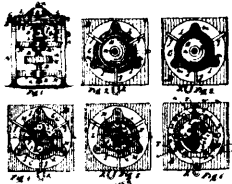
12443 Smith's Improvements on Vessel Propellers.



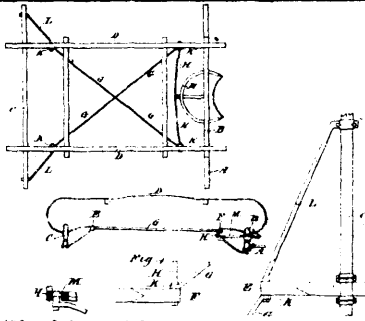
12444 Behaver's Improvements in Envelope Machines.



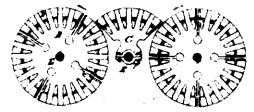
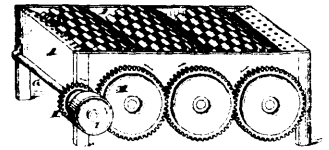
12445 Maxwell's Improvements on the Maxwell Reaper.



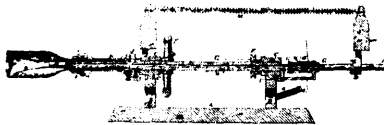
12454 Jew's Improvements on Pipe Elbow Flanging Machines.



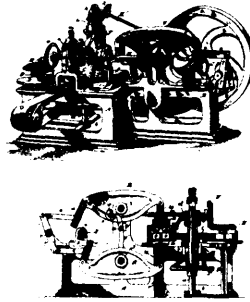
12456 Lajeunesse's Improvements on Vehicle Running Gears.



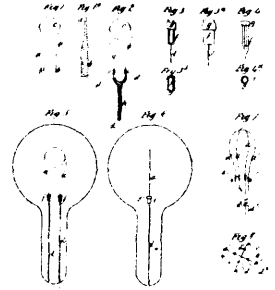
12457 Doten's Improvements on Rotary Fire Grates.



12458 Hoyt's Improvements on Bottle Washing Machines.



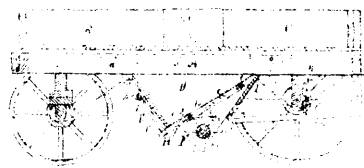
12463 Vanier's Improvements on Pressed Brick Machines.



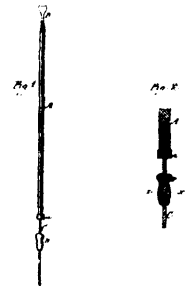
12464 Swan's Improvements on Electric Lamps.



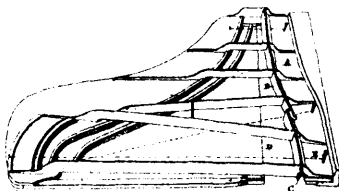
12465 Otto's Improvements on Bicycles.



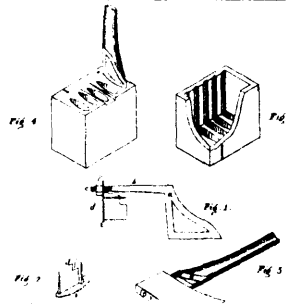
12466 O'Neil's Improvements in Waggons.



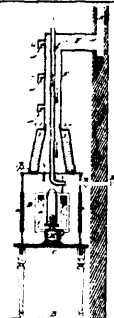
12469 Bailey's Improvements on Pruning Implements.



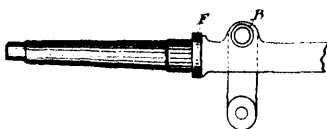
12470 Heintzman's Improvements on Piano-fortes.



12471 Morrill's Attachment for Axe and Tool Handles.



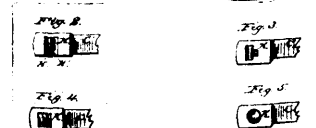
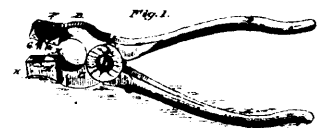
12472 McKinnon's Improvements on Ventilating Apparatus.



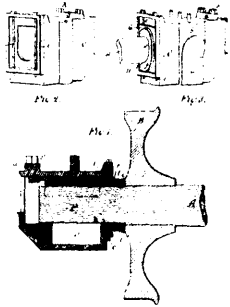
12473 Watson's Improvements on Spring Carriages.



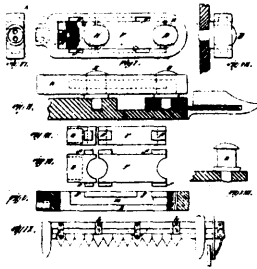
12474 Lawrence's Sap Bucket.



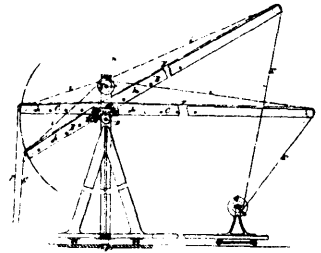
12475 Prentice's Improvements on Instruments for Setting Buttons.



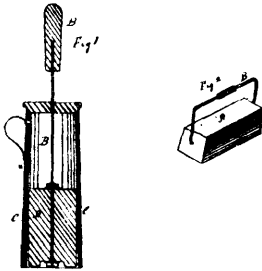
12481 Barrett's Improvements on Car Axle Boxes.



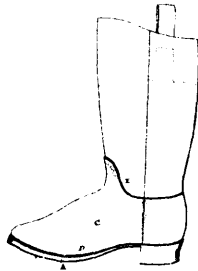
12482 Abell's Improvements on Harvesters.



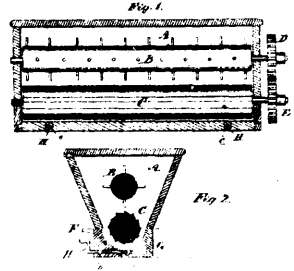
12483 Brion's Method for Raising Sunken Vessels, Raising, Lowering and Transporting Heavy Weights, and Loading or Unloading Vessels.



12484 Goewy's Improvements on Fire Kindlers.



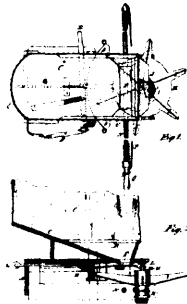
12485 Roos's Improvements in Boots.



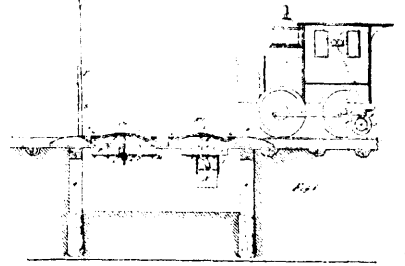
12486 Chambers's Improvements on Fertilizer Distributors.



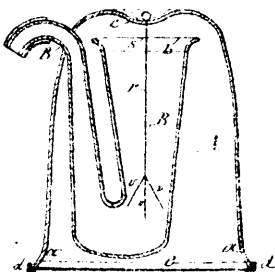
12487 Ross's Improvement on Ploughs.



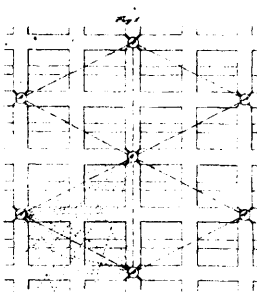
12488 Roemelen & Rashly's Improvements on Hand Seeders.



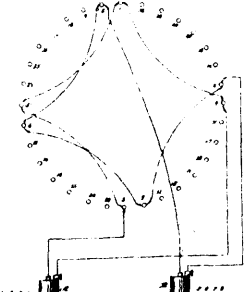
12489 Bélanger's Improvements on Railway Alarms.



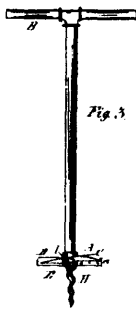
12490 North's Improvements in Car Trumpets.



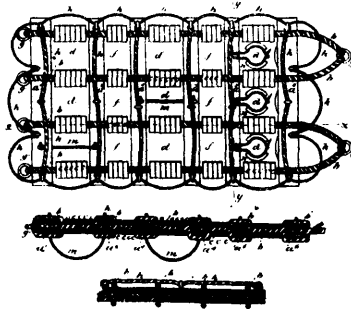
12492 Spalding's Improvements in Electric Lighting.



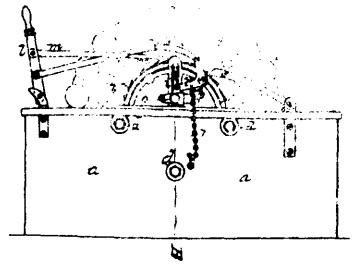
12493 Spalding's Improvement in Electric Lighting.



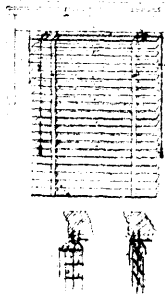
12494 Stephenson's Improvements in Ground Augers.



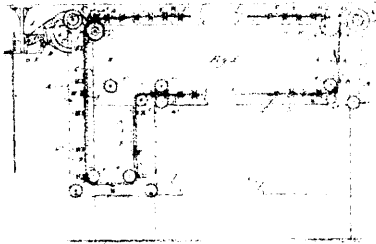
12495 Griffith's Improvements on Life Rafts.



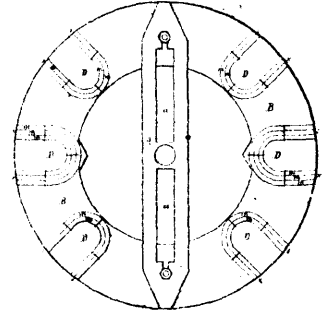
12496 Horner & Higgins's Improvements in Bottle Washers.



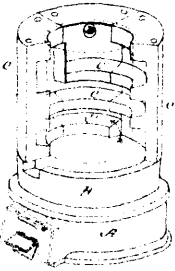
12497 Metcalf's Improvements in Window Blinds.



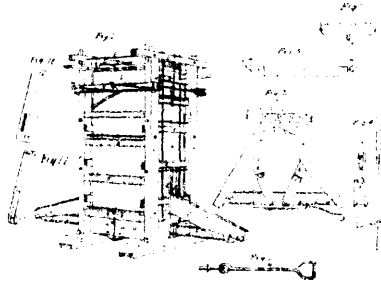
12498 Fernow's Improvements on Machines for Drying Printed, Varnished or Gummed Sheets.



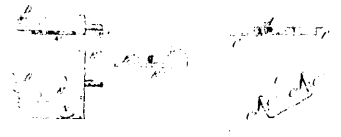
12499 Brown, Lewis & Cunningham's Improvements in Cards and Needles for Mariners' Compasses.



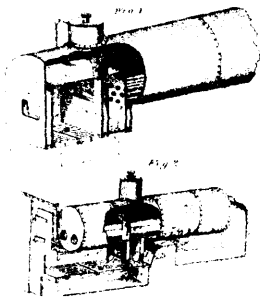
12500 Gurney & Sellers's Improvements on Steam and Hot Water Furnaces.



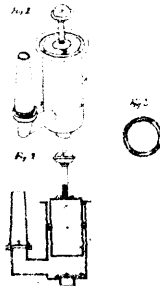
12501 Donerick's Improvements in Faling Presses.



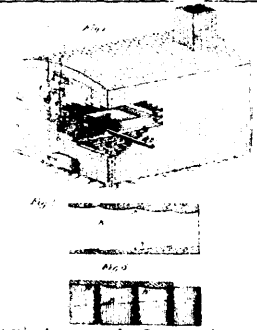
12502 Bowslough's Improvement in Window Blinds.



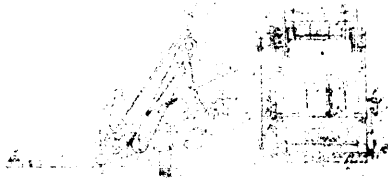
12503 Fisher's Improvements in Boilers, Furnaces and Boilers.



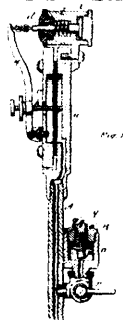
12504 Pease's Improvement on Pumps.



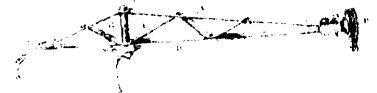
12505 Sloper's Apparatus for Decomposing Steam and Containing the Cases thereof.



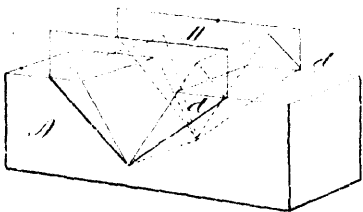
12506 Hoyt's Improvements on Harvesters-gavellers.



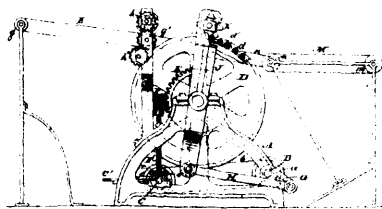
12507 Gwyer's Improvements on Governors for Vulcanizing Apparatus.



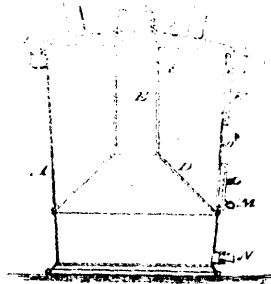
12508 Cockshut's Improvements on Plough Beams.



12509 Howe's Improvements on Candy Packages.



12510 Mitcheo's Improvements on Apparatus for Breaking Flax, Hemp, &c.



12511 Nantson's Improvements on Milk Coolers.