

Technical and Bibliographic Notes / Notes techniques et bibliographiques

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

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

Coloured covers/
Couverture de couleur

Coloured pages/
Pages de couleur

Covers damaged/
Couverture endommagée

Pages damaged/
Pages endommagées

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

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

Cover title missing/
Le titre de couverture manque

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

Coloured maps/
Cartes géographiques en couleur

Pages detached/
Pages détachées

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

Showthrough/
Transparence

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

Quality of print varies/
Qualité inégale de l'impression

Bound with other material/
Relié avec d'autres documents

Continuous pagination/
Pagination continue

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

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

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

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

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

Additional comments:/ Various pagings.
Commentaires supplémentaires:

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

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 10X | 14X | 18X | 22X | 26X | 30X |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 12X | 16X | 20X | 24X | 28X | 32X |

The Canadian Patent Office

RECORD




Vol. X.—No. 3.

MARCH, 1882.

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

CONTENTS.

| | |
|--------------------------|-------|
| INVENTIONS PATENTED..... | 65 |
| ILLUSTRATIONS..... | 85 |
| INDEX OF INVENTIONS..... | LXLV |
| INDEX OF PATENTEES..... | LXLVI |

INVENTIONS PATENTED.

No. 14,117. Improvements on Elliptic Springs. (*Perfectionnements aux ressorts elliptiques.*)

Edward Cliff, Newark, N. J., and Benjamin S. Clark, New York, N. Y., U. S., 2nd February, 1882: for 5 years.

Claim.—1st. An elliptical spring constructed of a bar of steel, whose thickness is greatest through its middle from end to end crosswise and lengthwise, and whose sides *d d* are of the same thickness from end to end, thus obviating the point of fracture. 2nd. The grouping of two or more leaves of varying lengths together forming an elliptical spring constructed of an elliptical bar, the said leaves resting directly on each other with no intervening medium.

No. 14,118. Improvements on Shingle Machines. (*Perfectionnements aux machines à bardeau.*)

Willis I. Perkins, Grand Rapids, Mich., U. S., 6th February, 1882: for 5 years.

Claim.—1st. The method of making a coursing line or lines on a shingle, while the shingle bolt is moving. 2nd. The method of making a coursing line or lines on a shingle parallel with the butt thereof, while the bolt is moving. 3rd. In a shingle machine, the combination, with the movable carriage having a rigid head block and a sliding dog, of a marking device rigidly secured at a predetermined distance from the said head block, and a marking device situated on the dog side of the machine and adapted to be moved laterally, so as to make a coursing line or lines, at a predetermined and parallel distance from the butt of the shingle. 4th. The combination, with the movable carriage having a rigid head block and a sliding dog, of a horizontally adjustable frame secured to vertically adjustable brackets, a marking device rigidly secured on the frame under the carriage, on the head block side of the machine, a marking device secured on the frame on the dog side of the carriage and adapted to be moved laterally by any suitable mechanism, so as to make the coursing line or lines at a predetermined and parallel distance from the butt of the shingle. 5th. The combination, with the frame of the machine having a cross girt secured thereto between the saw and tilt table, and provided with vertically adjustable brackets, adapted to form bearings for frames or tables on which the marking pots and mechanism for moving one pot respectively rest, of two marking pots one of which is rigidly secured to said frame and the other connected by a rod to a sliding frame having a large wheel adapted to engage the bolt, and a wheel secured to a rigid bearing on the sliding frame, and a spring actuated wheel adapted to engage with the rod secured to the under side of the dog arm and constantly keep the large wheel in contact with the bolt. 6th. The combination, with the outer casing of the ink pots, of a spring pressed shaft having rollers secured thereto, and a marking shaft having marking rollers secured thereto, which latter are adapted to revolve the said inking rollers by frictional contact therewith. 7th. The combination, with the carriage, of the corner irons secured thereto and provided with a cored rectangular space having bevelled or converging sides, one of the said sides being removably secured thereto. 8th. The corner irons rigidly secured to the carriage and provided on their under sides with cored rectangular spaces having converging or bevelled sides, one of said sides being removably secured thereto and hard wood slide bearings adapted to be introduced into the rectangular spaces and retained therein by the removable side. 9th. The horizontally revolving rollers secured to the carriage in such a position to take the side draft or pressure produced by the cutting of the saw. 10th. The corner irons secured to the carriage and provided with slide removable

bearings and uprights having horizontal journals therein, through which the rock shaft, which operates the dog has bearing, the lower portion of the said upright being hollowed out and provided with an internal lip, an arm carrying a horizontal roller and pivoted at one end to the frame of the carriage and adapted to enter the hollowed portion of the upright and rest on the lip, and a screw for regulating the arm. 11th. The combination, with the front and rear supporting legs connected by inclined longitudinal braces, the horizontal portions of the said braces being screw threaded, of vertical plates secured to the foundation of the machine, and provided with openings through which the braces pass, and a nut by which the machine is moved backwards or allowed to be drawn forward, which respectively tightens or loosens the drive belt as desired. 12th. The combination, with the front and rear supporting legs connected together by inclined longitudinal braces, screw threaded as described, the said front legs being provided with projecting tongues adapted to fit under loops secured to the foundation, of vertical plates secured to the foundation and provided with openings through which the inclined braces pass, and a nut adapted to bear against the said vertical plate and move the machine backward, thereby tightening the drive belt. 13th. The combination, with the shingle machine carriage, of the head block *F*, forged from a single piece of steel and adapted by its peculiar shape to assist in seating the bolt on the tilting tables and direct the flying sawdust from off the machine. 14th. The combination, with a horizontal saw and vertical saw arbor having its lower extremity provided with one or more annular grooves, of journal boxes having their inner sides provided with corresponding horizontal projections which respectively fit in said annular grooves. 15th. The combination, with a horizontal saw, a vertical saw arbor whose lower extremity is provided with one or more annular grooves, and journal boxes having interior horizontal projections which respectively fit in said grooves, of gibs which fit in an annular groove of the saw arbor above the journal boxes, and screws which secure the gibs to the top of journal boxes in vertical adjustment. 16th. The combination, with a horizontal saw, a vertical saw arbor, and journal boxes having their exterior sides provided with horizontal grooves, of bridge pots having their interior lateral projections extending lengthwise with the machine and which fit in said grooves, and set screws which maintain the journal boxes at the desired point of adjustment on said projections. 17th. The combination, with a horizontal saw, a vertical saw arbor and bridge pot, of journal boxes for the arbor fitted in said bridge pot, and a screw which vertically adjusts the latter. 18th. The combination, with a saw arbor and journal boxes fitted in a bridge pot, of a cross girt provided with a vertical guideway in which the bridge pot slides, and a screw which vertically adjusts the latter. 19th. The combination, with a horizontal saw, a vertical saw arbor provided with an annular groove, and journal boxes having their meeting edges provided with upper extensions, of gibs whose extremities have lateral bearings against said extensions, and adjusting screws which secure said gibs to the top of the journal boxes at different heights therefrom. 20th. In a shingle machine carriage, the combination, with a dog, a head block and rack and pinion mechanism, connecting them, of arms which connect the dog with a rock shaft, and a spring pressed pawl which engages with a circular rack formed on the carriage. 21st. The combination, with a carriage frame provided with longitudinal slots in its opposite sides, a dog whose extremities project through the slots and are provided with racks formed lengthwise with the carriage, and mechanism which moves the dog, of a head block whose extremities are provided with rack bars extending lengthwise with the carriage, and two pinions located on opposite sides of the carriage, and respectively connecting the rack bars of the dog with the rack bars of the head block. 22nd. The combination, with a carriage frame whose sides are provided with longitudinal slots, a dog having its extremities projecting through the latter, and provided with bars extending lengthwise with the carriage, the lower sides of said bars being formed as racks, of a head block whose extremities are provided with bars extending below the rack bars of the dog, and having their upper sides formed as racks, and two pinions located on the outer sides of the carriage frame and respectively connecting the rack bars of the dog with the rack bars of the head block, said dog being provided with actuating mechanism. 23rd. The combination, with rack shaft *L2*, rod *b4* having a limited pivotal movement on said shaft, and stationary racks *a2*, of arm *a2* rigidly secured to said shaft, and spring pressed pawl *b2* pivoted to the arm, said rod *b4* operating by its limited pivotal movement to disengage the pawl from the rack, before turning the rack shaft. 24th. The combination, with two independent tiltways, of a shifting device which moves said tiltways inde-

pendently of each other, and supports which provide rigid lateral bearing for the tiltways, when the latter are respectively released from engagement with said shifting device. 25th. The combination, with two independent tiltways and a shifting device, of set screws which provide adjustable lateral bearings for the tiltways, as the latter are respectively disengaged from said shifting device. 26th. The combination, with two independent tiltways, of a shifting bar disconnected from both the same and adapted to be longitudinally moved, the ends of said shifting bar having free bearing respectively against the tiltways. 27th. The combination, with a shingle bolt carriage, of a table located below the latter and provided with tiltways, a depending standard supporting the table, and a set screw which vertically adjusts said standard to move the table to or from the carriage. 28th. The combination, with a shingle bolt carriage and a table located below the latter and provided with tiltways, of mechanism which adjusts the table in horizontal inclination lengthwise with the machine and thereby moves the rear portion of said table to or from the carriage. 29th. The mechanism which adjusts the table in horizontal inclination with the carriage, and a spring which tends to maintain the table normally parallel with said carriage. 30th. The combination, with a standard depending from the table on which the tiltways are mounted, of a spring connected to the bearings in which the standard is supported, and a set screw which adjusts the standard in a vertical inclination lengthwise with the machine. 31st. A parallel bar provided with bearings in which the standard is fitted, and a spring which connects the upper extremity of said parallel bar to a support. 32nd. The combination, with a standard depending from the saw end of the table on which the tiltways are mounted, a parallel bar provided with slide bearings in which the standard is fitted, and a spring which connects the upper extremity of the parallel bar to a support of a horizontal set screw which adjusts said bar forward or rearward in vertical inclination, and a vertical set screw which adjusts the standard up or down in its slide bearings. 33rd. The combination, with tiltways and a shifting bar which moves them, of a tilting handle provided with a slot, a movable device fitted in the latter, and a spring connected to the movable device, said handle and shifting bar being connected by intermediate mechanism. 34th. The combination, with a catch projecting from the machine frame and provided with notches, and a horizontal cam roller provided with a depending rod, of a pivotal lever whose inner extremity connects with the shifting rod, and whose outer extremity has frictional engagement with the cam roller, said depending rod being adapted by engagement with the catch notches, to lock the shifting bar against movement. 35th. The combination, with a saw, of a carriage whose head block is provided with a glass roller mounted on its lower side and adapted to prevent injury to the saw, in case the latter should tend to come in contact with the head blocks. 36th. The combination, with a shingle machine carriage and actuating mechanism, of a shifting rod provided with a handle pivoted to the machine frame, and a cam roller adapted to lock said handle by frictional engagement therewith. 37th. The combination, with a carriage provided with a series of tripping dogs, of a shifting rod, or its equivalent, connected with the carriage driving mechanism and adapted to be engaged by the dogs, certain ones of said dogs, according to the width of the shingle bolt, being engaged by said bolt, and thereby operated so as to cause the shifting rod, or its equivalent, to automatically determine the length of stroke of the carriage. 38th. The combination, with a carriage head block provided with a series of tripping dogs, of a shifting rod or its equivalent connected with the carriage driving mechanism and adapted to be engaged by the outer extremities of the dog, certain ones of said dogs, according to the width of the shingle bolt being adapted to have their outer extremities engaged by the shingle bolt, and thereby operating their outer extremities so as to cause the shifting rod, or its equivalent, to determine the stroke of the carriage. 39th. The combination, with a carriage head block provided with a series of transverse vertical slots, of dogs fitted in the latter, and a shifting rod, or its equivalent, connected with the carriage driving mechanism. 40th. The combination, with a shingle bolt carriage, of a vertically moving spalt clearer and connecting mechanism, adapted to be operated by the carriage in its return movement, and thereby actuate the spalt clearer in an upward throw. 41st. The combination, with a spalt clearer and an operating rod, of a connecting device adapted to be thrown by said rod into engagement with the shingle bolt carriage as the latter is on its return movement, and thereby actuate the spalt clearer in its upward throw. 42nd. A link connected to the spalt clearer and adapted to limit it in its upward throw. 43rd. The combination, with a carriage, of steam driving mechanism adapted to actuate said carriage in its feed and return movements. 44th. The combination, with a vertically vibrating spalt clearer provided with an arm, of an operating rod provided with an arm which connects with the spalt clearer arms, said rod and arm being adapted to be engaged by the carriage on its return movement, and thereby actuate the spalt clearer in its upward throw. 45th. A carriage frame composed of single pieces of angular wrought metal having two sides and one end, said frame being formed with an outwardly projecting flange having curved corners O.

No. 14,119. Improvements on Feather Renovators. (*Perfectionnements aux renouveleurs de la plume.*)

Edmund B. Dufort, Toronto, and Henry Eldridge, Clarke, Ont., 6th February, 1882; for 5 years.

Claim.—1st. The combination of the double walled semi-cylinder provided with pipes for the introduction of steam, the double walled cover J having ventilating apertures at top and side, and the fan F enclosed by the semi-cylinder and cover, whereby the feathers are moistened by steam, the semi-cylinder and cover heated by steam to dry the feathers and the impurities removed from the feathers, by the fan creating a ventilating current and transfer the feathers to the tick. 2nd. The double walled cover J having ventilating apertures provided with doors K L and doors M N at the side, in combination with a semi-cylinder A and fan F, for creating a ventilating current. 3rd. The double walled cover J having at the side a spouted aperture O, for discharge of the feathers, in combination with a revolving fan F and semi-cylinder A. 4th. The semi-cylinder A constructed of unbro-

ken double walls provided with steam pipes B B C C, the pipes B discharging into the semi-cylinder and pipes C discharging between the wall, the outer wall having a waste steam pipe D. 5th. The semi-cylinder A having at top a chamber J with ventilating apertures and discharge apertures O in the side, in combination with a rotary fan F, for creating a current to remove the impurities and transfer the feathers to the tick.

No. 14,120. Improvements in Car-Couplings.

(*Perfectionnements aux accouplages des chars.*)

Daniel P. Prescott, Vernon, Vt., U.S., 6th February, 1882; for 5 years.

Claim.—1st. The draw bar D having a horizontal chamber in the rear of its mouth to receive a pin lifting lever and a pin supporting latch, the lever b pivoted within said draw-bar and having its free end extending near to the rear side of the coupling pin hole therein, the latch h pivoted to hang at the rear side of the draw-bar mouth and to swing therein, the pin c having the slotted arm r, and appliances for swinging lever b up and down. 2nd. In combination, the shaft d having the arm n thereon, lever b, rod e, pin c and the link a. 3rd. The coupling pin c having the slotted arm r thereon, the lever b to engage with said slotted arm, and appliances for lifting said lever b. 4th. In combination, shaft d having arm n thereon, spring r, rod e and lever b. 5th. In combination, the curved pivoted latch h, draw-bar D, pin c and link e. 6th. In combination with the draw-bar of a car-coupling having oblong coupling pin holes therethrough, the flat sided coupling pin c provided with the slotted arm r. 7th. In combination, the draw-bar D having the projection n on the rear curved side of its mouth, and the fulcrum block m on the lower front edge thereof, and the link e.

No. 14,121. Improvements on Compositions of Matter for the Prevention and Removal of Incrustations in Steam Boilers. (*Perfectionnements aux composés pour empêcher ou enlever les incrustations dans les chaudières à vapeur.*)

Hugo Kolker, Breslau, Prussia, 6th February, 1882; for 5 years.

Claim.—A solution of chestnuts applied as incrustation preventive.

No. 14,122. Apparatus for Separating Petroleum Products. (*Appareil pour séparer les produits du pétrole.*)

James Cole, jr., Cleveland, Ohio, U.S., 6th February, 1882; (Extension of Patent No. 7155.)

No. 14,123. Explosive Compound.

(*Composé explosible.*)

Egbert Judson, San Francisco, Cal., U.S., 6th February, 1882; (Extension of Patent No. 7148.)

No. 14,124. Apparatus for Separating Petroleum Products. (*Appareil pour séparer les produits du pétrole.*)

James Cole, jr., Cleveland, Ohio, U.S., 7th February, 1882; (Extension of Patent No. 7155.)

No. 14,125. Explosive Compound.

(*Composé explosible.*)

Egbert Judson, San Francisco, Cal., U.S., 7th February, 1882; (Extension of Patent No. 7148.)

No. 14,126. Improvement in Barber and Dental Chairs. (*Perfectionnement des chaises de barbiers et de dentistes.*)

George W. Archer, Rochester, N.Y., U.S., 7th February, 1882; (Extension of Patent No. 7292.)

No. 14,127. Improvements in Can Stoppers. (*Perfectionnements aux bouchons des bidons.*)

William H. Rodden, Toronto, Ont., 7th February, 1882; for 5 years.

Claim.—1st. In combination with the neck of a can or vessel provided with a spout B and vent aperture a in opposite sides thereof, a turning stopper C provided with channels c d on either side reaching from the bottom of the same above the said spout outlet and vent aperture, and a chain D swivelled to the said stopper and attached to the can neck, or a spiral spring attachment F provided with guard or stop links i attached to the stopper and the can, so as to hold the one closely in the other. 2nd. The spring hook or catch E on the can, in combination with the turning stopper C and holding chain D. 3rd. The spiral spring attachment F provided with guard or stop links i, in combination with the turning stopper C.

No. 14,128. Improvements on Compounds for Sewer Pipes, Sidewalks, etc. (*Perfectionnements dans les agglomérés à tuyaux d'égout, trottoirs, etc.*)

Daniel H. Dorsett, Clinton, Iowa, U.S., 7th February, 1882; for 5 years.

Claim.—A composition of asphaltum, sand, paraffine, black oxide of manganese, black lead and sal ammoniac.

No. 14,129. Improvements in Fanning Mills.

(*Perfectionnements aux tarare-cribleurs.*)

Henry Keller, Sank Centre, Ma., U.S., 7th February, 1882; for 5 years.

Claim.—The combination, with the batten E having the L-slot *d*⁶ and fixed on the shoe B, of the hanger D having its upper end fixed to the main frame A, and having its lower end *d*⁵ made L-shape and adapted to be inserted in the slot *d*⁶.

No. 14,130. Improvements on Harrows.

(*Perfectionnements aux hersees.*)

William J. Luce, Milbrook, N.Y., U.S., 7th February, 1882; for 5 years.

Claim.—1st. The combination of the head A with the gang bars B swivelled so as to move in a horizontal plane to a position parallel to the line of draft and then in a vertical plane and vice-versa. 2nd. The combination of the swivelled gang bars, the runners *k* and suitable locking devices. 3rd. The combination of the swivelled gang bars, the head A and the stay rods *h* adapted to lock the bars either in a position parallel, or substantially parallel to the head, or at right angles thereto.

No. 14,131. Improvement on Pianos and Organs.

(*Perfectionnement des pianos et des orgues.*)

Cyrus N. Andrews, San Francisco, Cal., U.S., 7th February, 1882; for 5 years.

Claim.—1st. The means of actuating or manipulating the keys of musical instruments which consists essentially of a perforated sheet of paper, or other non-conducting material, interposed between a positive and a negative pole of a battery, so that, when the said sheet or web is moved and the negative pole falls into, or engages the slot in said sheet, the circuit is complete and sound is produced upon the instrument and, when said negative pole is lifted, the circuit is broken. 2nd. In an electro-magnetic piano or organ player in which the circuit is closed or broken in an automatic manner, the perforated or slotted music sheet or strip *a*, positively charged cylinder D, (over which said sheet is caused to pass) and negatively charged rod or point G. 3rd. In an electro-magnetic piano or organ player, the combination, with an automatic circuit closing and breaking apparatus, of the helix I and armature J mounted upon a lever arm K connected to and by which a key or valve of the instrument is operated in the manner specified. 4th. In an automatic electro-magnetic piano player, the battery A, connecting wires B C, positively charged tube or cylinder D, negatively charged rod or point F, slotted music sheet O by which the current between the two electrodes is closed or broken, and helix I with its armature J, in combination with a system of cords and levers, by which the key or valve of the instrument is operated.

No. 14,132. Improvement on Water Wheels.

(*Perfectionnement des roues hydrauliques.*)

Covel R. Cowley, Wyoming, N.Y., U.S., 7th February, 1882; for 5 years.

Claim.—1st. The triangular butments *e e* forming divisions between the buckets of the wheel, said butments having their adjoining sides parallel and equidistant at all parts for the movement of the followers between them. 2nd. The combination, with the buckets of the wheel, of followers resting in the buckets and adjustable out and in, to increase or lessen the area of the buckets adapting the same thereby to different volumes of water. 3rd. The combination of the adjustable followers C C and the conical sliding head D, the followers being provided with inclined flanges *g g* resting in corresponding grooves of the sliding head. 4th. The combination of the threaded standard E, the cylinder or nut H, disk L, cap K, spur gear M, and sliding pinion N. 5th. The combination, with the follower C, of the packing *h*, set into edge and serving to pack the follower and prevent loss of water in the buckets. 6th. The combination, with the water wheel B, of the chutes V having pivoted inner heads *r* capable of swinging outward away from the wheel, when any impediment comes between them and the wheel.

No. 14,133. Improvements on Telegraph Receiving Apparatus.

(*Perfectionnements aux recepteurs telegraphiques.*)

John W. Fuller, London, Eng., 7th February, 1882; for 15 years.

Claim.—1st. The galvanometer coils formed with a coniform aperture in the centre of the coils, increasing in diameter in receding from the plane in which the mirror and magnet are suspended. 2nd. The way of winding such galvanometer coils having a coniform aperture in the centre, in sections connected, exterior to the coil, with metal blocks receiving pegs between them, for shunting the outer coils when desired. 3rd. The mirror and magnet holder. 4th. The combination of galvanometer coils having a coniform aperture, with adjusting instruments introduced into the said coniform aperture.

No. 14,134. Improvement in Sewing Machines.

(*Perfectionnement des machines a coudre.*)

Thomas Stevens, Hamilton, Ont., 8th February, 1882; for 5 years.

Claim.—1st. The combination of the outer plate E and the inner plate F, the thread take-up lever G. 2nd. The plates E F provided with slots *a d c*. 3rd. The combination of the take-up lever G, the outer plate E and the inner plate F, groove D, spring *a*. 4th. An adjustable thread take-up, consisting of the two vertical plates E L, sliding in a groove D and provided with slots, through the lower two of which is made to pass the thread take-up lever G and the inner plate F capable of being raised and lowered, to adjust the long or short throw of the said take-up lever, to suit fine or coarse goods, and operated by a cam.

No. 14,135. Improvements on Chairs.

(*Perfectionnements aux chaises.*)

Charles H. Gilpin, Uxbridge, Ont., 8th February, 1882; for 5 years.

Claim.—1st. The combination of the metal plates SSSS and R R and the cups or sockets G G, with flanges O O. 2nd. The combination of the cups or sockets G G and the rods C C, and the thumb screw D working on threads from both ends of the rod C C. 3rd. The combination of any shifting motion and any cups or sockets to shift backward or forward, either on the sides or tops of rockers by means of flanges or grooves in rockers.

No. 14,136 Improvements on Machinery for Tanning Hides, Skins or Pelts.

(*Perfectionnements aux appareils pour tanner les peaux.*)

John W. Janson, London, Eng., 8th February, 1882; for 5 years.

Claim.—1st. In a machine for unhairing, fleshing, paring, shaving and setting hides, skins or pelts; the knife cylinder E and roller F, in combination with the knife cylinder C and roller D. 2nd. The machine shown on the drawing.

No. 14,137. Improvements on Writing Tablets.

(*Perfectionnements aux livres de factures.*)

John H. Holder, Aurora, Ill., U.S., 8th February, 1882; (Extension of Patent No. 7049.)

No. 14,138. Improvements on Machines for Twisting and Doubling Cotton.

(*Perfectionnements aux machines a doubler et retordre le coton.*)

Alfred Yates, Tissington, Eng., 8th February, 1882; for 5 years.

Claim.—1st. In a machine for twisting and doubling cotton or other fibres, the regulation of the yarn or thread in the creel itself by arranging a number of creel bobbins radially round revolving pulleys or drums which regulate the delivery of the thread and, assisted by the pulley or drag of the spindle, produce a regular tension on the threads without the intervention of drawing rollers or other like mechanism. 2nd. In combination with drums or pulleys B, the radially supported slides O O for guiding the bobbins on to the drums. 3rd. In combination with the rails M carrying the slides O O, the bracket supporting same, the bearing and the upper shelf. 4th. In twisting or doubling machines the pivoted counterweighted wires or levers G carrying the pulleys or beads F, for automatically placing the thread in the water or other liquid.

No. 14,139. Improvements on Glove Fasteners.

(*Perfectionnements aux agrafes des gants.*)

Edward Horsepool, London, Eng., 8th February, 1882; for 5 years.

Claim.—The plate *a*, spring *v* and lever *c*.

No. 14,140. Improvement in Hub Bands

(*Perfectionnement aux coublures des moyeux.*)

Washington I. Atwood, Amesbury, Mass., U. S., 8th February, 1882; for 5 years.

Claim.—1st. An ornamental interior hub band having central opening for the insertion of the axle nut, a rim to engage or seat upon the outer band, and spurs or projections to enter the hub and hold such interior band in place. 2nd. An interior hub band formed with the curved concentric wall *a*, the central opening *b*, the securing spurs *c* and the seating rim *b*. 3rd. The combination of hub *h*, the outer band *i* and the inner band formed with spurs to enter the hub, a rim to seat upon the outer band and a central opening for the axle nut.

No. 14,141. Improvements on Apple Slicers.

(*Perfectionnements aux tranches pommes.*)

Albert J. Rice, Sudus, N. Y., U. S., 8th February, 1882; for 5 years.

Claim.—1st. The combination, with a suitable supporting frame, of the spirally arranged knives B B¹ B¹¹ removably attached to the frame at each end and offset on one side of the finger-shaft and the rotating fingers C. 2nd. In combination with the knives B and the rotary fingers C, the projection *h*. 3rd. The combination, with a suitable frame, of the shaft *d*, rotating fingers C and their knives B B¹ B¹¹ attached to the frame at one or both ends by a suitable straining device. 4th. The reversible apple slicer consisting of the supporting frame A, rotating fingers C and knives extending each away from the centre and sharpened on opposite edges. 5th. The combination, with the rotating fingers C and knives B, of the supporting frame A provided with ribs or lugs *e e*, for attaching the machine to the table in reversed position.

No. 14,142. Improvement on Squares.

(*Perfectionnement aux epees.*)

Lester Low, Ryegate, Vt., U. S., 8th February, 1882; for 5 years.

Claim.—1st. A square provided with crenulations or notches along its edges, arranged coincidently with its graduations. 2nd. A square provided with crenulations or notches along its edges, arranged coincidently with its graduations, and having their base formed angularly. 3rd. A square provided with a series of diamond or lozenge-shaped holes, each having one of its angles arranged coincidently with one of its graduations.

No. 14,155. Improvements on Circular Saws.*(Perfectionnements aux scies rondes.)*

François Genin, Montreal, Que., 9th February, 1882; for 5 years.

Claim.—1ea. Les fers à blanchir ou à raboter *b b* en combinaison avec la scie *a*. 2o. La combinaison des bouquets mécaniques *c d* avec la scie *a* fonctionnant ensemble.

No. 14,156. Improvements on Folding Leaf Tables. *(Perfectionnements aux tables à fr. illrs.)*

Cyrus Boall, (Assignee of John Bismann.) Fairview, W. V., 9th February, 1882; for 5 years.

Claim.—The combination, with the sliding end *a* of an extension table provided with a fixed top *a'*, secured to the legs *b* and a leaf receptacle *c* having a cover *d* hinged to the fixed top *a'*, of the sliding end *e* having a fixed top end, and a series of leaves *g g* hinged together on diagonally opposite sides of the leaves and the first leaf hinged to the top *u*, whereby when the cover is raised and the end of the table is forced together, the leaves will automatically fold with their top and bottom faces resting horizontally on each other.

No. 14,157. Improvements in Harvesting Machines. *(Perfectionnements aux moissonneuses.)*

John Watson, (Assignee of William S. Wilson.) Aver, Ont., 9th February, 1882; for 3 years.

Claim.—1st A track or ledge so constructed and attached to the main plate of the rake jack, or otherwise attached that an abrupt incline attached to, and forming a part of the track or ledge, or attached to, and movable with the tripping cam and placed in front of the said track or ledge, will cause the rake head to turn over from its raking to the reeling position. 2nd. A track or ledge so constructed and attached to the main plate of the rake jack or otherwise attached that an abrupt incline attached to and forming a part of the track or ledge, or otherwise attached to, and movable with the tripping cam, and placed in front of the said track or ledge will cause the rake head to turn from its raking to its reeling position, in combination with a wing or elbow attached to, or forming a part of the rake head by means of which wing or elbow the said rake is so turned over. 3rd. The track or ledge, in combination with an abrupt incline in front of said track, the wing or elbow *e* on rake head, and the tripping cam *D* attached to, or forming a part of the movable block. 4th. A rake arm having the usual notch for the locking latch for holding the rake head in its position, for raking a second notch at about a right angle to the first notch for holding the rake head in a position for reeling said second notch, being constructed with a pocket and a sliding dog therein, for the purpose of releasing the latch from the said second notch while reeling. 5th. In a rake arm having the usual notch for holding the rake head in a position for raking, and a second notch for holding the rake head in a position for reeling, in combination with the very short rack and abrupt inclines placed in front of the same. 6th. The sliding dog *d* in rake head for releasing the latch from the second notch, in combination with the descending pathway *K*, which presses forward the said dog and releases the latch.

No. 14,158. Improvements in the Manufacture of Ornamented Fabrics. *(Perfectionnements dans la fabrication des tissus ornementés.)*

William H. R. Toye, New York, N.Y., U.S., 9th February, 1882; for 15 years.

Claim.—1st. The process of ornamenting fabrics which consists, first, in coating the surface of said fabric or portions thereof with an adhesive medium; second, in depositing detached masses of powdered coloring material upon said prepared surface; third, in distributing and intermingling said masses of color powder and, fourth, in subjecting the powdered surface to pressure, to form a smooth or polished surface. 2nd. The application of an adhesive ground of two or more separate colors upon the same, or different parts of the fabric, and in the subsequent deposition of powdered colors or bronzes thereupon. 3rd. The process of preparing colors for ornamenting fabrics which consists in forming a pastry mixture of pulverized starch, powdered tale and acid in the proportions specified, adding suitable commercial colors thereto, to produce the tint required, drying the same by moderate heat and finally sifting or pulverizing the compound. 4th. As a new article of manufacture, an ornamented fabric produced by applying an adhesive size to the surface of said fabric, distributing and intermingling powdered dry colors upon the adhesive surface and afterwards subjecting the same to pressure. 5th. In a machine for ornamenting fabrics, the combination of a table for receiving a fabric which has been partially or wholly coated with an adhesive substance, a system of hoppers or receptacles for containing powdered colors, mechanism for discharging suitable portions of the contents of said hoppers upon the prepared surface, and devices for distributing and intermingling the masses of powdered color, prior to the application of pressure to the powdered surface.

No. 14,159. Improvements in Saddle Trees.*(Perfectionnements aux fûts des sellettes.)*

William H. Taylor, Baldwinsville, N.Y., U.S., and Samuel Taylor, Hamilton, Ont., 9th February, 1882; (Extension of Patent No. 9076.)

No. 14,160. Improvements in Metallic Pipes.*(Perfectionnements aux tuyaux métalliques.)*

David A. Ritchie, Charleston, Mass., U.S., 9th February, 1882; (Extension of Patent No. 2061.)

No. 14,161. Improvements on Milk Cans.*(Perfectionnements aux bidons de lait.)*

Abraham Huff, Chatham, Ont., 9th February, 1882; (Extension of Patent No. 7110.)

No. 14,162. Improvements on Bale Ties.*(Perfectionnements aux cercles des ballots.)*

Edwin S. Lenox, New York, (Assignee of David H. Mathias, Albany.) N.Y., U.S., 9th February, 1882; (Extension of Patent No. 7042.)

No. 14,163. Improvements on Bale Ties.*(Perfectionnements aux cercles des ballots.)*

Edwin S. Lenox, New York, (Assignee of David H. Mathias, Albany.) N.Y., U.S., 9th February, 1882; (Extension of Patent No. 7042.)

No. 14,164. Improvements on Microphones.*(Perfectionnements aux microphones.)*

The Canadian Telephone Company, Montreal, Que., (Assignee of Emile Berliner and Charles Williams, jr., Boston, Mass., U.S.) 9th February, 1882; (Extension of Patent No. 11,737.)

No. 14,165. Improvements on Microphones.*(Perfectionnements aux microphones.)*

The Canadian Telephone Company, Montreal, Que., (Assignee of Emile Berliner and Charles Williams, jr., Boston, Mass., U.S.) 10th February, 1882; (Extension of Patent No. 11,737.)

No. 14,166. Improvements on Wheel Harrows. *(Perfectionnements aux herse roues.)*

Frank Bramer, Little Falls, (Co-Inventor with Orrin W. Badger Whitney's Point.) N.Y., U.S., 10th February, 1882; (Extension of Patent No. 7230.)

No. 14,167. Improvements in Ship Fastenings. *(Perfectionnements dans le chevillage des navires.)*

Heber Squier, Grand Haven, Mich., U.S., 10th February, 1882; (Extension of Patent No. 7129.)

No. 14,168. Improvement on Cross-Cut Saws. *(Perfectionnement des scies de travers.)*

Jerome C. Dietrich, Galt, Ont., 10th February, 1882; (Extension of Patent No. 9222.)

No. 14,169. Improvements on Wheel Harrows. *(Perfectionnements aux herse à roues.)*

Frank Bramer, Little Falls, (Co-Inventor with Orrin W. Badger Whitney's Point.) N.Y., U.S., 11th February, 1882; (Extension of Patent No. 7230.)

No. 14,170. Improvement in Ship Fastenings. *(Perfectionnement dans le chevillage des navires.)*

Heber Squier, Grand Haven, Mich., U.S., 11th February, 1882; (Extension of Patent No. 7129.)

No. 14,171. Improvement on Cross-Cut Saws. *(Perfectionnement des scies de travers.)*

Jerome C. Dietrich, Galt, Ont., 11th February, 1882; (Extension of Patent No. 9222.)

No. 14,172. Improvements on Metallic Fences. *(Perfectionnements aux clôtures métalliques.)*

Joseph F. Walmesley, London, Ont., 11th February, 1882; for 5 years.

Claim.—As a new fastening for metallic fences, the tongues *C D* stamped or cut out of the metal strips *A B*, for locking the two ends together, and in combination therewith. 2nd. The method of forming a series of junctions or openings at any points by means of the tongues *C D*.

No. 14,173. Improvements on Head Chairs for Railway Switches. *(Perfectionnements aux coussinets de têtes des aiguilles de chemin de fer.)*

William A. Cooper and James E. McLeod, Topeka, Ks., U.S., 11th February, 1882; for 5 years.

Claim.—1st. A metallic head chair for switches, composed of two wings *E F*, one of which is provided with a plane face for the support and movement of the switch rail, and the other with seats in which the ends of the stationary rails are fixed. 2nd. Two wings *E F* spanning the space between the head block *G* on which the chair is supported, one of said wings being formed with a plane face, on which the switch rail rests and slides, and the other wing being provided with projections *K*, to constitute seats, in which the ends of the stationary rails are secured. 3rd. Two wings *E F* joined by a transverse

depression H, for receiving the switch operating rod and spanning the space between the head blocks G, on which the chair is supported, one of said wings being formed with a plane face, on which the switch-rail rests and slides, and the other wing being provided with projections K to constitute seats, in which the ends of the stationary rails are secured.

No. 14,174. Improvements in Harvesting Machines. (*Perfectionnements aux moissonneuses.*)

William Deering, Chicago, (Assignee of John F. Stewart, Plano,) Ill., U.S., 11th February, 1882; (Extension of Patent No. 7122.)

No. 14,175. Improvements on Car-Couplings. (*Perfectionnements aux attelages des chars.*)

William V. Perry, Chicago, Ill., U.S., 11th February, 1882; for 5 years.

Claim.—1st. A coupling head provided with recesses F F, at each side of the coupling-pin aperture C near its upper end, the said recesses being adapted to engage the shoulders E E on the lower end of the coupling pin B. 2nd. In combination with the coupling pin B provided with shoulders D D E E near its lower end, the coupling-head provided with right and left recesses F F.

No. 14,176. Improvements on Plate Printing Machines. (*Perfectionnements aux machines à imprimer en taille-douce.*)

Homer Lee, New York, N.Y., U.S., 13th February, 1882; for 5 years.

Claim.—1st. The combination of one or more flexible pads, one or more dampened wiper cloths, and means for reciprocating the same. 2nd. The combination of one or more wiper cloths, each passing under a flexible reciprocating pad, the bearings of which are mounted upon the side frames and provided with devices for regulating the pressure of said wiper cloths upon the plate or printing surface. 3rd. The combination, with one or more moving wiper cloths, each passing under a flexible reciprocating pad, of means independent of the pad for moving the same continuously onward, so as to constantly present a new wiping surface. 4th. A plate printing machine provided with two or more wiper cloths, a wiper cloth charged with whitening. 5th. The combination, with wiper cloths and reciprocating pads, of an intermittently operating apparatus for applying whitening to one or more of the wiper cloths. 6th. The combination of one or more pads covered with dry wiper cloths, and one or more pads covered with wet wiper cloths, said pads and cloths being provided with means for producing their reciprocation, and arranged in such relation that the wet cloth or cloths shall act last upon the plate or printing surface. 7th. The combination, with two wiper pads, of a single wiper cloth and a means for turning the same after it passes one wiper pad, so as to present the opposite face as it passes over the second wiper pad. 8th. The combination, with a wiper cloth, of a wiper pad having a curved bearing surface, which pad is laterally reciprocated over the plate, but has no surface movement, or substantially none, in the opposite direction during the wiping operation. 9th. The combination, with a wiper cloth and its pad, of a moisture supply pipe 143 leading to said pad. 10th. The combination of a wiper cloth, its pad damping fountain and moisture supply pipe as 143. 11th. The combination, with a wiper pad and a wiper cloth, of an apron or belt b, whereby a constantly changing heating surface is provided. 12th. The combination with the impression cylinder 51, of the steam pipe m. 13th. The combination, with the printing plate or surface, wiper pad and wiper cloth, of the gas pipe r and means automatically operated to control the flow of its supply of gas. 14th. The combination, with the printing plate or surface, wiper pad and wiper cloth, of the steam pipe m, and means automatically operated to control the flow of steam therefrom. 15th. The combination, with the bed and its heating pipes 118, of a supply pipe connected thereto, so as to feed the same from a central point and thus cause an even distribution of the gas. 16th. The combination, with the bed or plate carrying plank of gas pipes, arranged to reciprocate with said bed and come to a state of rest while the bed moves rearward, whereby both the plate and inking table are heated. 17th. The combination, with the wiper cloth and its pad, of the reciprocating whitening carrier z. 18th. The improvement in the art of plate-printing, the same consisting in applying multicolours to the inking table, blending the edges of the same, applying the blended ink to the engraved plate or printing surface, and wholly or partially wiping the plate. 19th. The combination, with the impression cylinder of a revolving sheet-laying nap-raising brush. 20th. The combination, with the impression cylinder, of two sets of grippers and means for operating them arranged so as to receive successive sheets at the same point, and means to deliver the same in succession one upon the other, whereby a sheet may be fed to be printed, and a slip sheet be fed, which will not be printed, and the latter be laid upon the former. 21st. A delivering mechanism consisting of an impression cylinder provided with two sets of grippers, and means for operating the same, so as to receive sheets successively at a common point, carry one sheet only of a pair into contact with the printing surface, and release both sheets successively at a common point, to a receiving cylinder as c, whereby alternate sheets are printed, and the sheets are delivered in a common pile, a plain sheet resting upon a printed sheet. 22nd. The combination with the engraved printing surface, of a gas jet located above its path of travel, for revolving the moisture from its surface. 23rd. The combination, with the engraved printing surface and the wiper cloth and pad, of a scraper p arranged to operate upon said surface. 24th. The combination, with one or more flexible pads with a hard surface, as leather, of one or more flexible pads with soft surface, as cloth, each of said pads acting as carrier for wiping cloths passed over them, and being provided with means for reciprocating said pads. 25th. The combination, with the wiper cloth carrier 26 and the means for feeding it onward, of the star-wheel 28, pawl 29 and cushion c. 26th. The combination, with the wiper cloth carrier 26 and means for feeding it onward, of the star-wheel 28, pawl 29 and the spring s. 27th. The combination with the ink fountain, of partitions 160 having flaring guides 162 163. 28th. The combination, with the wiper pad, of its plate

149 and adjusting screws arranged near its opposite edges, as that the opposite sides of the pad may be adjusted independently. 29th. The combination of one or more pads covered with dry wiper cloths, and one or more pads covered with wet wiper cloths, said pads and cloths being provided with means for producing their reciprocation, and arranged in such relation that there shall be a dry cloth or cloths last upon the plate or printing surface.

No. 14,177. Improvements in Veneer Cutting Machines. (*Perfectionnements aux machines à tailler les bois de placage.*)

Heman S. Smith and Hamilton W. Shipman, Brooklyn, N.Y., U.S., 13th February, 1882; for 5 years.

Claim.—1st. A knife slide whose line of motion is diagonal to the axial line of the log, in combination with the knife and press rollers. 2nd. A knife slide having attached to it two or more rollers for the purpose of straightening the veneer as it comes from the knife. 3rd. A knife slide provided with pressure rolls and rolls for straightening the veneer, the line of motion being diagonal to the axial line of the log. 4th. A knife slide moved by a crank shaft placed above the centre line of travel of the knife slide. 5th. The automatic mechanism for extricating the veneer from the knife slide consisting in a combination of the cam w and the stationary surface p. 6th. A veneer cutting machine composed of the following instrumentalities, namely, a cutting knife whose line of motion is diagonal to the axial line of the log, a knife slide provided with pressure roll and rollers for straightening the veneer as it comes from the knife, and a crank shaft for operating the knife slide placed above the centre line of travel of the slide.

No. 14,178. Improvements in Sharpening Files. (*Perfectionnements dans l'aiguillage des limes.*)

Milo A. Richardson, Bridgeport, Ct., U.S., 13th February, 1882; (Extension of Patent No. 10,627.)

No. 14,179. Improvements in Sharpening Files. (*Perfectionnements dans l'aiguillage des limes.*)

Milo A. Richardson, Bridgeport, Ct., U.S., 14th February, 1882; (Extension of Patent No. 10,627.)

No. 14,180. Improvements in Electric Lamps. (*Perfectionnements aux lampes électriques.*)

Thomas L. Wilson, Hamilton, Ont., 15th February, 1882; for 5 years.

Claim.—1st. In combination with an electric lamp, the hollow rod E, plugger p, wire h. 2nd. In combination with the armature of an electric lamp, the tube R, fastened solidly to it and provided with the plunger i, wire j. 3rd. In combination with an electric lamp, the construction and arrangement of the circuit closer O. 4th. In combination with an electric lamp, the construction and arrangement of the spring s. 5th. In combination with the washer d and clamping device, an electric lamp carbon rod holder, a spring to prevent the upper carbon holder from slipping too fast through said washer. 6th. In combination with the clamping device and washer j of an electric lamp, a spring m secured to an adjustable collar K, on the post L.

No. 14,181. Improvements in Fertilizer Distributors. (*Perfectionnements aux distributeurs des engrais.*)

Stacy B. Hart, Peoria, Ill., U.S., 15th February, 1882; for 5 years.

Claim.—1st. The combination of a hopper having a single lateral delivery orifice through its rear portion, and two rotating armed wheels, the adjacent peripheries of which travel in the same direction, and arranged on opposite sides of the delivery orifice to form an unobstructed feed channel or passage, which is bounded on two sides by the rotating wheels, whereby the material is fed along the hopper and discharged horizontally through the single lateral delivery orifice. 2nd. The combination of a hopper provided with a single lateral delivery orifice in its rear portion, and two feed wheels rotating on opposite sides of the delivery orifice and projecting through the rear wall of the hopper to carry the material between them, and discharge it through the single lateral delivery orifice at the rear of the hopper. 3rd. The combination of two armed or toothed wheels, located on opposite sides of a single delivery orifice in the hopper and acting to carry the material between them, with two worms or spiral flanges, arranged in a shaft with their pitch in reverse directions, whereby the two wheels are rotated and their adjacent peripheries caused to travel in the same direction. 4th. The combination of a hopper, an agitator therein, two armed wheels arranged in the bottom portion of the hopper, a shaft provided with worms or spiral flanges engaging the armed wheels and rotating them, and cleaning the teeth thereof, and connecting mechanism between the worm shaft and the agitator for simultaneously operating the parts.

No. 14,182. Improvements on Cheque Books. (*Perfectionnements aux livres de mandats.*)

John R. Carter, Toronto, Ont., 15th February, 1882; for 5 years.

Claim.—In a black leaf cheque book composed of double leaves, one-half of which is bound together, while the other half folds in as fly leaf, both being perforated across so that they can readily be torn out, the combination of the black leaf bound into the book next to the cover, and provided with the tape bound across its end, the said black leaf having the transferring composition on one of its sides only.

No. 14,183. Improvements on Methods and Means for Dessicating Eggs and Other Materials. (*Perfectionnements aux modes et aux moyens de dessiccation des oeufs et autres objets.*)

Lydia J. Cadwell, Chicago, Ill., U.S., 25th February, 1882; for 5 years.

Claim.—1st. Treating eggs and other liquid, or semi-liquid substances the same consisting in, first, treating the substance until it is in a viscid or semi-hardened condition and then mechanically disintegrating the same while drying. 2nd. The dessication of eggs and other liquid or semi-liquid substances, first subjecting such substance while upon a carrying surface to the action of air or gas until it is in a viscid or partially hardened condition, and then completing the hardening or breaking up a reduction to powder by working or disintegrating the same, while drying by contact with one or more blocks or blades, whereby the film is broken and disintegration is effected. 3rd. The combination, in a dessicating apparatus, of a band, means for depositing on the same a film of the material to be dried, appliances whereby said film is subjected to the action of drying or hardening gases, and means whereby the film upon the band is stirred and broken after a partial hardening and prior to removal. 4th. The combination, in a dessicating apparatus, of the shaft or casing, heating or drying appliances, travelling band B, roller E, or its equivalent, and roller carrier constructed to permit the roller to be thrown into or out of contact with the band. 5th. The combination, with the casing, heating or drying appliances, and endless belt B, of the scraper S arranged to bear on the moving surface of the belt, and a support arranged to oppose the pressure of the scraper.

No. 14,184. Improvements on Iron Harrows.

(*Perfectionnements aux herses en fer*)

Joseph Maunder, Little Britain, Ont., 15th February, 1882; for 5 years.

Claim.—The peculiar shape of the clip, and the openings therein, whereby the hinge or cross bars can be attached to the bulls, to give the angle that is required to the harrow without bending the same.

No. 14,185. Improvements on Carriage Tops.

(*Perfectionnements aux soufflets des voitures.*)

William Hodge, Uxbridge, Ont., 15th February, 1882; for 5 years.

Claim.—1st. The combination of the cleats on side of buggy or carriage tops with side rails, by means of the screw top or rivetted clamps O O. 2nd. The combination of the jointed elbows and the back of sectional bar. 3rd. The combination of the three parts of the sectional bar, whereby it can be made to fit any size of vehicle. 4th. The combination of the upright pins or bolts L of the side rails D, and the sectional bar either by means of a pinching screw or wedge. 5th. The combination of the side rail by means of the shoulder V, and the cleats on buggy side by means of the taper-headed screws, or rivetted clamps O O. 6th. The combination of the sectional bar, the elbows of top and back quarters X so connected as to control the position of adjustable bar (sectional or otherwise) on the upright pins or bolts without unfastening the back quarters or elbows, and without the movement of the side rails. 7th. The combination of any back bar (sectional or otherwise) that will so adjust on upright pins or bolts so as to give a forward pitch to the top.

No. 14,186. Improvement in Boots.

(*Perfectionnement dans les bottes.*)

Thomas T. Marshall, Jarvis, Ont., 14th February, 1882; for 5 years.

Claim.—1st. A boot in which the upper and quarter is cut integrally with foot opening B, cut out of the centre and forming projections a b, for the fancy front and heel pieces for tongued boots. 2nd. In combination with an integral upper A, of the projections a b and top C.

No. 14,187. Improvement on Bobbin Winders for Shuttle Sewing Machines. (*Perfectionnement des bobineuses pour les machines à coudre à navette.*)

Charles B. Thompson, St. Catharines, Ont., 15th February, 1882; for 5 years.

Claim.—1st. The combination, with the frame and the bobbin supports of the winder, of the presser pad B, consisting of a shank portion hinged to the frame A and subjected to spring pressure, and the thread distributing or guide plate B', adjustably secured to the said hinged shank pad. 2nd. The combination, with the main frame of the winder, of the screw C provided with a thread guide eye and adapted to be turned to vary the length of the thread, between the guide eye and the bobbin, and also to vary the position of the line of the thread between the two. 3rd. The combination, with the frame A, of the bobbin supports, the spring tension device D. 4th. The lateral projection (b²) at either corner of the curved guide plate as seen at Fig. 8, for the positive securing of the return of the thread when coming to the bobbin head, back and forth evenly, layer upon layer until filled. 5th. The indicator n upon the graduated presser spring p¹, together with the spring itself as and for the double purpose described.

No. 14,188. Improvements on Metallic Fences. (*Perfectionnements aux clôtures métalliques.*)

Thomas C. Hewitt, London, Ont., 15th February, 1882; for 5 years.

Claim.—In combination with the band or strip A of iron or other metal to be used as a fence, the brace or stay B for strengthening and supporting the same.

No. 14,189. Improvements in Metallic Fences. (*Perfectionnements aux clôtures métalliques.*)

Thomas C. Hewitt, London, Ont., 15th February, 1882; for 5 years.

Claim.—As a new material for metallic fences, the corrugated band or strip A of iron or other metal.

No. 14,190. Improvements in Telephones.

(*Perfectionnements aux téléphones.*)

The Canadian Telephone Company Montreal, Que., (Representing Thomas A. Edison, Menlo Park, N. J., U. S.) 17th February, 1882; (Extension of Patent No. 9922.)

No. 14,191. Improvements in Telephones.

(*Perfectionnements aux téléphones.*)

The Canadian Telephone Company, Montreal, Que., (Representing Thomas A. Edison, Menlo, Park, N. J., U. S.) 18th February, 1882; (Extension of Patent No. 9922.)

No. 14,192. Improvements in Grain Binders.

(*Perfectionnements aux engrebeuses.*)

Samuel Johnston, Brockport, N. Y., U. S., 18th February, 1882; for 5 years.

Claim.—1st. A grain binder for storing up power when the machine is gathering a gavel or doing the last work, and mechanism for liberating such power to compress the grain, when the bundle is being formed and knot tied, and when the machine is doing its greatest work. 2nd. A mechanism designed to tie a knot, in which the looper forms the knot by a reciprocating motion and rotary motion. 3rd. In a knot tyer, a stationary holder, in combination with a reciprocating looper. 4th. A looper provided with two jaws, one of which alone is movable, and which, when closed, form a hook. 5th. The combination of looper D provided with jaws d d', spindle d² and friction roller d³ or its equivalent, cam dog E and spring e¹, and mechanism to reciprocate the looper. 6th. The looper D, in combination with the stationary cord-holder composed of fingers K and spring fingers K². 7th. The combination of a reciprocating looper D with a cord-holder composed of fingers K K², and a reciprocating slide, provided with curved gathering fingers i. 8th. The looper, in combination with spring lever D³. 9th. The looper D, in combination with spring lever D³, a stationary cord-holder and a sliding gathering piece l provided with curved fingers and knife edges K¹ i'. 10th. The reciprocating looper d, in combination with a stationary holder and gatherer G. 11th. The reciprocating looper D, in combination with spring lever D³, stationary holder composed of fingers K K², bars D² I, cam piece L and a gatherer adapted to gather the binding cord and carry it over the looper. 12th. In a grain binder, a compressor composed of a spring T, bar U provided with pin U¹, bell crank V, and camway W, in combination with mechanism which acts directly to compress the bundle. 13th. A compressor composed of spring T, bar U provided with pin U¹, bell crank V, camway W, cam projection X, bar S, lever R and compressor cord q, in combination with compressor arm O and binder arm N, for the purpose of compressing the gavel after it has been gathered into a bundle. 14th. The compressor arm C and binder arm N¹, in combination with compressor band Q, spring arm P and mechanism to operate the compressor band, to compress the bundle. 15th. A cord gatherer G provided with a projecting hook z. 16th. The reciprocating looper D, in combination with the projecting hook Z. 17th. The reciprocating looper D, in combination with spring lever D³, projecting hook Z, a binder arm N, and a suitable stationary cord-holder composed of fingers K K². 18th. A compressor which stores up power when the machine is laying a gavel, and uses the power when the bundle is being tied, in combination with a knot tyer, which ties a knot by the reciprocating movement of the looper to the exclusion of rotary motion. 19th. A reciprocating looper D, in combination with a cord-holder and knife edges K¹.

No. 14,193. Improvement in Egg Preservers. (*Perfectionnement des appareils à conserver les oeufs.*)

Dexter Smith, Litchfield Corner, Me., U. S., 18th February, 1882; for 5 years.

Claim.—The trough or case A, apron B and the reciprocating grid C, provided with means or mechanism for operating it.

No. 14,194. Improvements in Oil Tanks.

(*Perfectionnements aux réservoirs à huile.*)

John D. Arnold and William A. Southworth, Holley, N. Y., U. S., 18th February, 1882; for 5 years.

Claim.—1st. The combination of the windlass A, rope G, upright e e, braces D D and crosspieces E E, and the frame of the tank. 2nd. The combination, with the windlass rope G, upright e e, braces D D and crosspieces E E, of the barrel and skids.

No. 14,195. Improvements in Packing Boxes for Ammunition. (*Perfectionnements aux boîtes à emballer les munitions.*)

Edward G. Parkhurst, Hartford, Ct., U. S., 18th February, 1882; for 5 years.

Claim.—1st. The box A provided with the grooves D and the removable partition E adapted to lie against the end of the box when the same is wholly filled, and to be removed to the other grooves to hold and confine the ammunition cases, when the box is partially filled. 2nd. The combination of the removable interior partition C

having a handle socket E, with the box A having its end provided with the notch F. 3rd. The partition C having the recess H for hold the cord G, in combination with the end of the box, which closes the receptacle for the cord.

No. 14,196. Improvements on Creamers.

(*Perfectionnements aux garde-la'it.*)

William E. Parmenter, Toronto, Ont., 18th February, 1882; for 5 years.

Claim.—1st. A cold setting creamer in which the milk is contained within a can having a conically formed bottom, an ice box arranged to contain the milk can with ice and water around it, in combination with a false bottom placed within the ice box, about four or five inches above its bottom, and arranged to support the milk can, while permitting the ice and water to pass from above it into the chamber below. 2nd. A cold setting creamer in which the milk can is held in a box containing ice or water, but having its top projecting above the lid of the latter, a cover arranged to fit the top of the milk can and having an upwardly projecting flange to form a water receptacle on top of the cover, in combination with an overflow pipe arranged to carry pass the cover joint any overflow of water and a ventilating pipe formed through the cover, and extending above the flange.

No. 14,197. Improvements in the Manufacture of Gloves and Mitts.

(*Perfectionnements dans la confection des gants et des mitaines.*)

Edwin J. Ewens, Toronto, Ont., 18th February, 1882; for 5 years.

Claim.—A glove or mit with wristlet, each manufactured by itself and subsequently united, the one to the other, by the introduction of a rubber or other suitable elastic band between the glove and the wristlet and attached thereon, or stitched without an elastic band.

No. 14,198. Improvements in Leg and Foot Protectors.

(*Perfectionnements aux protecteurs des jambes et des pieds.*)

William Beattie, Portage, Wis., U. S., 18th February, 1882; for 5 years.

Claim.—The described leg and foot warmer or protector composed of the leg and foot piece, or upper A provided with a sole and with a flap B having strap C, buckles arranged opposite to said straps inside, packing strips or collars G, strap loops D D and detachable straps E having buckle F.

No. 14,199. Improvement in Cooking Stoves.

(*Perfectionnement des poeles de cuisine.*)

Elizabeth Peerless, Toronto, Ont., 18th February, 1882; for 5 years.

Claim.—1st. The application of a division piece made of cast iron (or other suitable material) to an ordinary, or other cooking stove. 2nd. The division of the fue space on and across the oven top, and between the top of the oven and the inner side of the stove top, thus forming two separate flues between the fire pot and rear damper. 3rd. The dividing piece, as applied fast or loose, with or without sliding damper made in one or more pieces suited to the stove to which it is to be applied.

No. 14,200. Improvements in Horse Shoes.

(*Perfectionnements aux fers à cheval.*)

George K. Flower, Pittsburg, Penn., U. S., 18th February, 1882; for 5 years.

Claim.—The improved horse shoe comprehending a shoe and integral calk bases perforated from below upward, for the reception of the stems of the calks proper, said perforations being severally curved or crooked, and calks made separate but confined to the shoe by the curvature or crook of the stem due to its having been driven through said holes, or perforations, in the operation of attaching said calks.

No. 14,201. Improvements on Machines for Dressing Millstones.

(*Perfectionnements aux machines à rabiller les meules.*)

David Vaughan, Bangor, Wis., U. S., 18th February, 1882; for 5 years.

Claim.—1st. In a millstone dressing machine, a vibrating diamond carrying clamp pivoted at, or near its central portion, to a sliding frame, and mechanism for flexibly holding the diamond point in contact with the stone to be dressed. 2nd. A vibrating diamond carrying clamp pivoted at, or near its central portion, to a sliding frame and mechanism for operating said clamps, to lift the diamond point free of the stone, on the return stroke of the sliding frame. 3rd. The stock G provided with a slotted head G' having ears I, in combination with the diamond thimble clamp I, pivots *m m*, lever J, coiled spring *r* and stud *r'*. 4th. The diamond carrying stock G pivoted to the transverse carriage, in combination with the transverse carriage and transverse rail plate pivoted at right angles to the pivots of the stock G. 5th. In combination with the rocking stock G, the adjustable yoke composed of the upright bars *o o* and slotted cross bar K. 6th. The pivoted stock G provided with the yielding spring support *n*, in combination with the slotted cross bar K, adjusting screw *l* and nut *r*. 7th. The diamond thimble consisting of a small cylinder on divided longitudinally lines radiating from its cross sectional centre forming an obtuse angle. 8th. The automatic feed mechanism consisting of the endless screw bearing the eccentric fly P, having the two sliding surfaces 2 3 and spur *u*, and the toothed wheel R, in combination with the spring bar Q provided with a series of notches Y Y' in its upper edge, and a series of pins Z Z on its sides. 9th. In a feed mechanism for dressing millstones, a bar Q provided with a series of movable pins Z Z, whereby a variable feed is secured.

10th. The combination of a tool-holder vibrating through a vertical plane, a stock vibrating through a horizontal plane, and a transverse carriage rail plate vibrating through a horizontal plane at right angles to the plane of vibration of the stock. 11th. The rods E provided with wedge-shaped sections *f*, in combination with die plates D having grooves *e* with diagonal bottoms, the said rods E being inserted in said grooves *e*.

No. 14,202. Improvements on Stoves.

(*Perfectionnements aux poeles.*)

James D. Pierce, Milwaukee, Wis., U. S., 18th February, 1882; for 5 years.

Claim.—1st. In a heating stove, the combination, with the fire pot and the dome, of the radial triangular ribs *e* arranged to form a ring flue of radial chutes *e* within the flaring tops of the fire pot, and the exit pipes D opening into said chutes between the triangular ribs, the said ring flue serving to concentrate the gases in combustion beneath the exit pipes. 2nd. The combination of the fire pot, the dome, a flue of radial flaring chutes opening into the dome chamber, and the exit flue pipes D opening into said radial flaring flue chutes, with a feed door or doors arranged above said flue of radial flaring chutes and opening into the side of the dome. 3rd. A heating stove consisting of the fire pot B, the dome C, the flue of radial flaring chutes arranged around the top of the fire pot and beneath the base of the dome, the feed doors opening into the side of said dome, the pipes D, the drum G and the hot air chamber E' arranged within said drum and having an open bottom.

No. 14,203. Improvements in Grain Separators and Graders.

(*Perfectionnements aux separateurs-trieurs des grains.*)

Hiram P. Edmunds, Covington, Ky., U. S., 16th February, 1882; for 5 years.

Claim.—1st. The combination, with the two separating blast chambers located at the top of the machine, of the screen chamber and the shaking screens in the lower portion of the machine, arranged to receive the first grade of grain from the suction spout of one of the separating blast chambers and to effect a separation of foreign substances, and the fan and fan chamber arranged between the air separating chambers and the shaking screens. 2nd. The combination of two air suction chambers, located transversely to each other, at the top of the machine, and provided with the depending suction spouts O D, the screen chamber and the shaking screens arranged in the lower portion of the machine and receiving the first grade of grain from the spout D, the chute arranged beneath the shaking screens for conveying the grain into the spouts O and the fan and fan chamber arranged between the air separating chambers and the shaking screens. 3rd. The combination of the screen chamber E, provided with the transverse stationary end board F' having longitudinal slots, with screen frames and screens arranged to be removed and replaced through the slots in the stationary end board, without removing the latter. 4th. The combination, with the horizontal shaft L and its driving pulley, and the vertical shaft R and its driving pulley, of the pulley *w* mounted in a stationary frame, the swinging bifurcated frame V, the pulley W' arranged within the swinging frame, and the belt Y. 5th. The combination, with the shaking screen frame supported above the flat springs *f*, of the transverse driving shaft I, having a cranked end J, the pitman I, vertical lever H pivoted at or near its centre, and the stud *g* centrally attached to the screen frame, to which the lower end of the vertical lever is directly secured.

No. 14,204. Improvements in Paper Bag Machines.

(*Perfectionnements aux machines à sacs en papier.*)

William C. Cross, Boston, Mass., U. S., 18th February, 1882; for 5 years.

Claim.—1st. The combination, with the guide finger, of a plate knife folder which rotates or moves continuously in one direction. 2nd. The combination of the guide finger blank, feeding mechanism, and a plate knife folder which rotates or moves continuously in one direction. 3rd. The combination of the guide finger, the plate knife folder arranged to rotate or move continuously in one direction, the feed mechanism and means for opening the mouth of the blank and directing the upper ply above or upon the guide finger. 4th. The combination of the feed rolls, the spring opener and the nipper. 5th. The plate knife folded blade and endless power driven carrier tapes or belt, upon which the same is mounted, in combination with the guide finger intermediate between said tapes. 6th. The improvement in the art of making satchel bottom paper bags which consists in reversing the blank while being fed along diamond fold foremost so as to bring its mouth end foremost before folding the mouth of the diamond which overlies the body of the bag blank. 7th. The improvement in the art of folding flaps, of the diamond fold of a bag blank, in order to make the second and final folds of the satchel bottom which consists in first folding back the front flap of the diamond fold to form the second fold, the bag blank travelling diamond folded end foremost, then reversing the whole blank so as to bring its mouth end foremost and the rear flap of the diamond fold to the front relatively to the direction of feed, then folding back this flap to form the final fold of the satchel bottom, and subsequently discharging the completed bag. 8th. The combination, with the diamond folder blank carrier and the mechanism by which the blank is subsequently taken and acted on, in order to complete the satchel bottom, of an intermediate transferer, arranged and operating to receive the blank diamond folded end foremost from said carrier, and to deliver or present the same mouth end foremost to the said finishing mechanism. 9th. The combination, with the two carriers and means for folding the flaps of the diamond folder blank, of an intermediate rotary pocketed transferring cylinder which receives the blanks, diamond folded end first, from the carrier behind, and delivers them mouth end foremost to the carrier in front. 10th. The combination of the rear carrier, the rotary pocketed transferring cylinder, the nipper cylinder and means for retaining the blank thereon, and making the final fold, these instrumentalities being combined for joint operation.

No. 14,205. Improvements in Paper Bag Machines. (*Perfectionnements aux machines à sacs de papier.*)

William C. Cross, Boston, Mass., U.S., 18th February, 1882; for 5 years.

Claim.—1st. The combination, with the rotary diamond fold forming rolls A, of intermittently opening and closing ply grasping devices, one on each cylinder, arranged and operated to close on the respective plies of the blank before the latter enters the bite of the rolls, and means whereby the mouth end of the blank, at the point where the ply grasping devices take hold of the plies, is opened, to enable the said devices to enter the mouth of the blank for that purpose. 2nd. The combination, with the rolls A, of the nippers intermittently operated to open and close, and arranged to take hold of the plies of the blank, before the latter enters the bite of the rolls, means for opening the mouth of the blank and a pressure roll B. 3rd. The combination, with wiper bar or bars and continuously rotating blade and clamping jaw carrying rolls, of two pairs of clamping jaws and tucker blades carried by said rolls arranged and operating to fold successively the front and rear flaps of the diamond folded blanks. 4th. The combination, with the clamping jaw roll, of the blade roll provided with a blade adapted to tuck the ply to be folded into the bite of the clamping jaw and with side blades or flanges, which project behind said tucking blade and act to push the ply or plies which underlie the flat to be folded down into a recess or pocket in the jaw roll, so that the loop or bend of the said pushed down ply or plies will be carried beyond and out of the bite of the clamping jaw.

No. 14,206. Improvements in Heating and Ventilating Buildings. (*Perfectionnements dans le chauffage et l'aérage des bâtiments.*)

Lyman A. Spaulding, Chicago, Ill., U.S., 18th February, 1882; for 5 years.

Claim.—In a system of ventilating rooms, the combination and arrangement of the shaft A, hot air inlets C, floor outlets D and passages a of uniform length, between the second outlets and the shaft.

No. 14,207. Improvements on Sofas. (*Perfectionnements aux sofas.*)

Robert W. Anderson, Toronto, Ont., 18th February, 1882; for 5 years.

Claim.—A sofa or lounge A provided with a fixed back B, and a cupboard D arranged between its legs, in combination with a detachable side C arranged to close the open side of the lounge.

No. 14,208. Improvements on Sulky Harrows. (*Perfectionnements aux herses à siège.*)

Charles LaDow, Albany, N.Y., U.S., 18th February, 1882; for 5 years.

Claim.—1st. The combination, with an axle B supported by carrying wheels, of tooth bar A duplex hinged arms *b h*. 2nd. The combination and arrangement, with a supporting axle, of a tooth head which has a hinged connection with said axle by duplex arms, so that said tooth head will be adapted to be elevated or depressed without being canted or turned. 3rd. The combination, with a supporting axle and carrying wheels, of a hinged toothed head, which is adapted to be moved vertically in either direction with its sides held vertically in all its upward and downward movements. 4th. The combination, with a supporting axle carrying wheels and a toothed head so hinged to said axle that it will not cant or turn, when being elevated or depressed, of two or more series of teeth which will be raised or depressed simultaneously with the points of the teeth of one series on uniform horizontal planes, with the points of the teeth of the other series in every degree of elevation and depression. 5th. The combination, with a supporting axle tooth head and duplex arms hinged said tooth head with said axle, of a lever provided with dog operating with a segment rack attached to the axle or frame, and a connection between said tooth head to said lever, whereby the said tooth head will be adjusted vertically and held in position. 6th. The combination, with a supporting axle and carrying wheels, of a sectional tooth head consisting of two or more tooth beams, each hinged by duplex arms to said axle and provided with digging teeth, whereby the sections will each operate independently of the other and adapt the teeth to conform to the undulations of the soil. 7th. A tooth head formed by the combination of two parallel clamping bars *g g'*, provided with recesses *g* adapted to receive the shanks of the teeth and clamping bolts *g'*, whereby the teeth will be held clamped to said tooth head and be adapted to be variously adjusted in a vertical direction. 8th. The combination, with a harrow tooth and a tooth head provided with recesses *g* adapted to receive the shank of said tooth, of elastic pieces *g'*. 9th. The combination, with a supporting axle carrying wheels and tongue or pole, of a sectional tooth head hinged by duplex arms to said axle and provided with two or more series of teeth, and mechanism by which said tooth head will be elevated or depressed and held in any set position. 10th. In combination with axis B and tooth head A, yoked arms *b h* or *b' h'* and eyes *b' h'* or *b h*, whereby said bar will be held from swaying endwise in its hinged connection with said axle. 11th. The combination, with axle carrying wheels and tooth head hinged rearward of said axle, carrying two or more series of harrow teeth with their points on the same plane and rearward of the row teeth of said carrying wheels, of the seed box E provided with seed drop mechanism actuated by the carrying wheels. 12th. The axle B provided with longitudinal perforations *h*, longitudinal saw-kerr B and clamping bolts *g'*, of spindle *h*. 13th. The toothed head A which is hinged rearward to an axle by arms, which will hold said tooth head from canting or turning, when moved vertically, of two or more series or classes of spring teeth *a'* or *a*, each of different degree of stiffness and having their points on the same horizontal plane. 14th. The tooth head, in combination with mechanism which will hold said tooth head from canting, when said tooth is resisted at its point. 15th.

The tooth *a* made of flat spring steel and with an ogee-form and attached to a tooth head which will not cant forward, of tooth *a'* or *a*, made with a curved form and attached to the same tooth head. 16th. The combination, with a supporting axle mounted on carrying wheels pole, tongue or thills secured rigidly to said axle, and a tooth head provided with harrow teeth and hinged to said axle, of a hand lever provided with a dog working with a rack fixed rigidly to the axle or frame, and a connection between the said axle and hand lever, whereby said rake teeth will be allowed to enter the soil to a given depth, at the will of the operator. 17th. The combination of a tooth head, two or more series of spring teeth securely held by their shanks in the same vertical plane, with their points on different vertical planes, whereby an undue rocking motion of the tooth head and teeth will be prevented. 18th. The combination and arrangement, with a supporting axle and carrying wheels, of a tooth head hinged to said axle and provided with two or more series of spring teeth in which the points of the teeth of the several series on the ground will be between the thread of the wheel and a line drawn vertically on a plane with the rear side of the wheel.

No. 14,209. Improvements on Telephones. (*Perfectionnements aux téléphones.*)

The Canadian Telephone Company, Montreal, Que., (Representative of Thomas A. Edison, Menlo Park, N.J., U.S.,) 18th February, 1882; (Extension of Patent No. 9923.)

No. 13,210. Improvements on Telephones. (*Perfectionnements aux téléphones.*)

The Canadian Telephone Company, Montreal, Que., (Representative of Thomas A. Edison, Menlo Park, N.J., U.S.,) 20th February, 1882; (Extension of Patent No. 9923.)

No. 14,211. Improvements in Boots and Shoes. (*Perfectionnements dans les chaussures.*)

Orlando E. Lewis, Urbana, Ohio, U.S., 20th February, 1882; for 5 years.

Claim.—1st. A boot or shoe having the edge of the upper in its front portion turned outwardly, and the edge of the remaining rear portion turned inwardly, and each part suitably secured to the sole. 2nd. A boot or shoe whose front sole is formed of two parts or pieces of equal length and breadth, and whose upper in its front portion is turned outwardly and sewed down on the edge of such double sole, while its remaining rear portion is turned inwardly and secured in the shank.

No. 14,212. Improvement on Upright Pianos. (*Perfectionnement des pianos droits.*)

Charles F. Bourne and William Bourne, Boston, Mass., U.S., 20th February, 1882; for 5 years.

Claim.—1st. The lever E pivoted to the piano case and attached by hinges to the swinging fall board A B, in combination with the hook H on the music rack F. 2nd. The music rack F provided with the hinged ledge I, and rods K.

No. 14,213. Improvement on Buffing and Polishing Machines. (*Perfectionnements des machines à astiquer et polir.*)

George H. P. Flagg, Boston, Mass., U.S., 20th February, 1882; for 15 years.

Claim.—The central core B having secured upon it the rubber covering A made with a large number of cells A in it.

No. 14,214. Improvements on Door Knobs. (*Perfectionnements aux boutons des portes.*)

George Price, Birmingham, Eng., 20th February, 1882; for 5 years.

Claim.—Attaching door or other knob or handles to their spindles by means of a spring catch or catches upon the spindle engaging in a toothed rack upon one or both of the knobs, or by means of a tubular rack connecting a spindle upon each knob.

No. 14,215. Improvement in Medicinal Compounds. (*Perfectionnement dans les composés médicinaux.*)

Thomas C. Fields, St. Andrews, Que., 20th February, 1882; for 5 years.

Claim.—A medicinal compound composed of confection of senna, extract of podophyllin, extract of belladonna, croton oil and dried prunes or their equivalents.

No. 14,216. Improvements on Air Ships. (*Perfectionnements aux navires aériens.*)

Carl V. Peterson, San Francisco, Cal., U. S., 20th February, 1882; for 5 years.

Claim.—1st A guiding and reefable lifting vessel or vessels. 2nd. An airship having a lifting vessel or vessels, and means for reefing said vessel or vessels and a guiding sail or sails, whereby the ship may beat or tack regularly in the air on vertical inclination. 3rd. The combination, with a lifting vessel or vessels, of the car or boat having a tank or tanks for containing volatile liquid, and a retort for converting said liquid into gas. 4th. The combination, with a lifting vessel, one or more, of a feed pipe in the neck or bottom thereof, and a safety valve for automatically relieving the lifting vessel of undue pressure with or without manometer. 5th. An airship having a vertical circular or partly circular rudder, or rudders pivotally connected to its frame or to the frame of its said rudder or both, said rudder being provided with steering lines extending to the car.

6th. Air ships, in combination with the coupling or connecting rods to form a train or line of ships. 7th. In an air ship, an indicator of the downward or upward drift. 8th. In an air ship, an indicator of inclination.

No. 14,217. Compound for Cleaning Boilers.

(*Composé pour nettoyer les chaudières.*)

Sir Melville Parker, Cooksville, (Assignee of Gilbert R. Lobdell, Toronto,) Ont., 20th February, 1882: (Extension of Patent No. 7145.)

No. 14,218. Improvements on Machines for Lasting and Tacking Boots and Shoes.

(*Perfectionnements aux machines à former et cheviller les chaussures.*)

George W. Copeland, Malden, (Co-inventor with Erastus Woodward, Matthias Brock and Joseph E. Crisp, Boston,) Mass., U. S., 20th February, 1882; for 5 years.

Claim.—1st. In a machine for lasting the uppers of boots and shoes, the upper holding devices BB, one of which is arranged in advance of the other and adapted to operate or to be operated upon before the other. 2nd. The combination of a jack for holding the last having a horizontal movement, upper holding devices adapted to be brought into contact with the edge of the last at the toe or heel in successive order, and folding plates for simultaneously folding the edge of the upper, held up by the upper holding devices upon the surface of the insole. 3rd. The combination of the last, the jack having a horizontal movement in relation to the upper holding devices, the upper holding devices one arranged in advance of the other, and the lasting plates secured to the bed having a horizontal movement whereby, upon a movement of the last horizontally in one direction, the upper is clamped to the edge of the last at the toe or heel, and by the continued horizontal movement in the same direction, its edge is folded upon the surface of the insole. 4th. The combination of the last, a jack for supporting it, the toe or heel folding plates and a gang or group of fastening driving devices, supported and adapted to be positioned by the movement of the lasting plates. 5th. In a lasting machine for lasting the toes and the heels of boots and shoes, a revolving jack having a horizontal movement, a last carried by said jack, and toe and heel lasting devices arranged at opposite ends of a bed or table and adapted to be used successively. 6th. In toe and heel lasting devices arranged at opposite ends of a bed or table and adapted to be used successively in lasting the toe and heel of a boot or shoe. 7th. The combination of radially converging folding plates, a group of nail drivers carried by suitable arms or supports which are adapted by mechanism to be moved to a position coincident with the plates and tack or nail strip feeding mechanism. 8th. In a machine for driving fastenings, a nozzle adapted to have a vertical movement imparted to it, in combination with mechanism connecting it with the actuating pulley, whereby the movement of the nozzle both starts and stops the machine. 9th. The combination of a nozzle adapted to have a vertical movement imparted to it, and means for centering it in relation to the driveway of the machine, during its upward movement. 10th. In a machine for driving fastenings, the combination of a movable member of the clutch mechanism and a frictional device for stopping the machine operated by said member whereby, upon its disengagement from the other member, the friction mechanism is caused to act and the machine is stopped and, whereby, upon its engagement with said member, the friction is released. 11th. In a machine for driving tacks from a tack strip, a feed pawl having three or more teeth. 12th. In a machine for driving tacks from a tack strip, the feed pawl and means for imparting to it, closing advancing withdrawing and backward movements. 13th. The combination of the cam D, the pawl E and the intermediate mechanism for providing the pawl with the movement specified. 14th. As a means of providing the feed pawl with a four motion feed, the levers *f* having reciprocating movements imparted to it, the arms *g* pivoted and clamped to said lever and stops for changing the direction of the movement of said arms. 15th. In an organized power machine for driving tacks from a tack supporting strip, the combination of the main shaft, a cam and starting and stopping mechanism. 16th. In an organized power tacking machines for driving tacks from a tack supporting strip, the combination of the following instrumentalities: a driver and feed pawl, a main shaft having a cam for operating the pawl, and crank for operating the driver and means for revolving it. 17th. In a machine for driving fastenings, the combination of the spider, the loose driven pulley and the foot or projection *d*⁶, adapted to be moved in presenting the work to the nozzle and intermediate connecting mechanism whereby, upon the movement of said foot, the machine is set in operation. 18th. The combination of a spider and driven pulley with the foot or projection *d*⁶, and mechanism connecting the foot with the spider or pulley whereby, upon the movement of the foot, the machine is set in operation and then is stopped automatically, after driving one or a given number of fastenings. 19th. The combination of the lever *d*² connected with a loose driven pulley and adapted to move it upon the main shaft in relation to a spider, the cam *d*⁶, the lever *d*⁵ and the connecting lever *d*⁶ and its spring. 20th. The combination of the lever *d*² adapted to move a loose driven pulley in relation to a spider, the lever *d*⁵ having a horizontal movement and a bed crank lever *d*⁴ having a vertical movement and pivoted as described. 21st. The combination of the spider, the loose driven pulley, the levers *d*² *d*⁵ *d*⁶, cam *d*¹⁰, the bell crank lever *d*⁴, the sliding plate *d*¹⁶, foot *d*¹⁸, and the springs *d*¹⁵ *d*¹⁷ *d*¹⁹ *d*²⁰. 22nd. In an organized machine for lasting the uppers of boots and shoes, the combination of the nozzle of a fastening driving machine, a jack and last adapted to be raised to, and held against the said nozzle by a treadle while the fastening is driven, and a second treadle adapted to actuate the start and stop motions of the fastening driving machine, while the jack treadle is kept down to hold the last and jack to the nozzle. 23rd. The combination of a jack and last adapted to be operated by a foot treadle to present the work to the nozzle of an automatic fastening driving device, and the automatic fastening driving device, whereby the last and jack are presented by the foot to the nozzle of the fastening driving device, a tack or nail

driven and the jack and last automatically adapted to resume their original position upon the release of the treadle. 24th. The combination of a jack for holding a last and presenting it to automatic fastening driving mechanism, and actuating device for starting the fastening driving mechanism and adapted to be moved in the act of presenting the work in proper position, for receiving the fastening, whereby the fastening may be driven at the instant that the work is so located. 25th. The combination of a jack for holding and presenting the last to an automatic fastening driving device and the means for setting said fastening driving device in operation arranged or located to be automatically moved upon the placing in position of the last, whereby a fastening is driven at the instant the last is so located. 26th. An organized machine for lasting and tacking the uppers of boots and shoes, in combination with a jack for holding and presenting the last to an automatic fastening driving device, and the means for starting and stopping its operation adapted to be operated or moved automatically, upon the placing in proper position of the last or work in relation to the nozzle, whereby, upon the instant, said work is so located a fastening is driven and the machine automatically stopped. 27th. The combination of a jack for holding and supporting the last and for presenting it and the work thereon to an automatic fastening driving device, means for stopping it and an unwehted foot treadle for operating the jack, all arranged so that as the jack is lifted the stop motion mechanism is operated. 28th. The combination of a jack for holding the last and presenting it and the work thereon to an automatic fastening driving device, means for moving the same horizontally and vertically in relation thereto, and a yielding guide H of a length sufficient to extend below the lowest level of the upper portion of the last. 29th. The combination of an automatic device for driving fastenings, the lasting plates, a jack for holding a last and the work thereon, and the means whereby the jack may be moved from one device to the other. 30th. The combination of the jack C and means for automatically changing its inclination or level as it is revolved consisting of the pivoted block *d*, the shaft *d*³, bevel gear *d*⁵ *d*⁶. 31st. In a lasting and tacking machine, the means for adjusting the extent and inclination of the jack consisting of the gear *d*⁶ recessed as specified, a crank pin adjustable in said recess, and the plate *e* having a slot in which the crank pin plays. 32nd. The combination of the block *d*, the jack C, means for securing the jack to the block in a manner to enable the same to be revolved thereon, and friction devices for creating friction between the block and jack. 33rd. The combination of a jack, its supporting rod *c* and means for adjusting the inclination of the jack in relation to the rod consisting of the plate *e*, a plate *e*¹ pivoted at *e*² to the plate *e* and having the slot *e*², and the locking device *e*³. 34th. In the hand tacking machine, the combination of the driving rod, the driveway, the tack feeding mechanism, the abutment and the bell-shaped throat. 35th. In a tacking machine, the inverted cone or bell-shaped throat.

No. 14,219. Improvements in Grates for Furnaces, &c.

(*Perfectionnements aux grilles des fourneaux, &c.*)

Harry Rogers, Janesville, Wis., and John H. Rogers, Springfield, Mass., U. S., 20th February, 1882; (Extension of Patent No. 7135.)

No. 14,220. Improvements in Grates for Furnaces, &c.

(*Perfectionnements aux grilles des fourneaux, &c.*)

Harry Rogers, Janesville, Wis., and John H. Rogers, Springfield, Mass., U. S., 21st February, 1882; (Extension of Patent No. 7135.)

No. 14,221. Improvements on Seeding Machines.

(*Perfectionnements aux semoirs.*)

John M. Westcott, Wilton, Ind., U. S., 21st February, 1882; (Extension of Patent No. 7441.)

No. 14,222. Improvements in Mowing Machines.

(*Perfectionnements aux faucheuses.*)

Christopher W. Levalley, St. Paul, Min., U. S., 21st February, 1882; for 5 years.

Claim.—1st. An axle carrying the drive wheels, a tubular frame encircling said axle loosely, a hollow stem branching from said tubular frame, a skein or sleeve encircling said stem and carrying the cutter bar frame, in combination with a draft chain adjustably connected to said skein or sleeve, whereby a lifting force is exerted upon the cutter bar at the same time that it is drawn forward, and without interfering with the oscillatory movement of said skein or sleeve, and cutter bar frame, upon said stem and axle. 2nd. The axle frame E, stem E⁵, sleeve J¹, tongue R connected loosely to said axle frame, in combination with a draft chain W¹, with means for connecting said draft chain W¹ adjustably to said axle frame and sleeve. 3rd. An axle having bearing wheels mounted loosely upon its ends, with means for connecting and disconnecting said axle and bearing wheels with the cutter bar operating mechanism, whereby both bearing wheels are utilized to operate the sickle, and without interfering with the oscillatory movement of said axle and bearing wheels surrounding said axle, a hollow stem branching from said tubular frame, a skein or sleeve surrounding said stem and a draft chain connected adjustably to said sleeve and axle frame, whereby the cutter bar frame may be subjected to a lifting force at the same time that it is drawn forward and the sickle operated, without interfering with their action. 4th. The pitman F₁ having the wedge-shaped blocks F₃ inserted into its ends and with means for moving said blocks, to lengthen or shorten said pitman correspondingly. 5th. The shaft F₁, crank plate F₂, rock shaft F₃ having the oppositely branching crank arms, and the sickle N₂, in combination with the pitman F₁ and means for adjusting said pitman longitudinally. 6th. The rock shaft F₃ having the oppositely branching crank arms G₁ G₂, in combination with auxiliary braces G₁ G₂. 7th. The rock shaft G₁, in combination with auxiliary brace G₂, friction roller G₃ and stud G₄. 8th. The combination with the sickle N₂, plate N₃, prongs h₂ h₃, bolt A, and means

attaching said plate to said sickle, upon both sides of said prongs for to strengthen them. 9th. The pitman F₄, rock-shaft G₃ and crank arm G₆, in combination with the auxiliary brace G₁ and pin G₇. 10th. In combination with a cutter bar, a frame for supporting said cutter bar adapted to be oscillated upon a central pivot back of said cutter bar, means for elevating either or both ends of said cutter bar, and a spring F₁₂ arranged to hold said elevating mechanism in an upright position. 11th. The combination of the tubular frame E₁, stem E₆ encircling sleeve J₁ having the cutter bar frame attached thereto and means for elevating said cutter bar frame and a draft chain W₁. 12th. The combination of the shaft T₁, cams T₅ T₆ with means for operating them independently, and a spring T₂. 13th. The tongue frame R₁ R₂ R₃ in combination with the hounds R₂ R₃, tongue R₁ and braces R₄ R₅ R₆. 14th. The combination of the tubular frame E₁, tongue frame R₁ R₂ R₃ and caps R₇ R₈. 15th. The hounds R₂ R₃ and tongue R₁, in combination with the draft chain W₁, whereby space is left in the rear of said tongue for the passage of the said chain downward, so that a central draft may be obtained.

No. 14,223. Improvements in Sleds.

(Perfectionnement dans les traîneaux.)

James T. Gurney and Samuel Little, Boston, Mass., U. S., 21st February, 1882; for 5 years.

Claim.—1st. The combination, with the runners, of the roller or draw-bar K and the supplemental tongue L. 2nd. The combination of the runners, the draw-bar, the supplemental tongue and whiffle tree with the shafts J. 3rd. The combination, with the runners, and the draw-bar or roller, of flexible swivelling connections which permit either end of the roller to rise or fall independently of the opposite end. 4th. The combination, with the rave B, of the metallic bearing D having sockets D¹, and the flanges d, all cast in one piece of metal.

No. 14,224. Improvements in Chain Pumps.

(Perfectionnements aux pompes à chaîne.)

Morris D. Temple, Chicago, Ill., U. S., 21st February, 1882; for 5 years.

Claim.—1st. In chain pump fixtures, the ratchet box B having the interior chamber r, recess n, inclined track i, shaft bearing b and screw plate p. 2nd. A ratchet wheel provided with teeth t, the longer surfaces of which are convex and the shorter concave, in combination with a recess n provided with an inclined track i and loose roller. 3rd. A ratchet wheel provided with a box or housing open on one side and provided with a chamber or recess a having an inclined track i, in combination with a roller r. 4th. The housing B of a ratchet wheel provided with side d, to which is attached a screw plate p provided with a shaft bearing, and side d¹ provided with opening o, recess n having inclined plate i and opening on the under side thereof. 5th. The housing B of a ratchet wheel, provided with side d having a screw plate p and shaft bearing b, side d¹ extending to or beyond the lower edge of the ratchet wheel, and provided with the opening o. 6th. The combination of the ratchet box B, provided with the upwardly inclined track i, ratchet wheel R, roller r and shaft S. 7th. The housing B of a ratchet wheel provided with chamber a having inclined track i, side d provided with screw plate p and shaft bearing b, side d¹ provided with opening o, the side d¹ extending beyond the lower edge of the ratchet wheel. 8th. The housing of a ratchet wheel provided with sides d d¹ extending beyond the periphery of the ratchet wheel and covered by a rim e provided with a recess n and inclined track i, one of said sides being provided with an opening o, and the other with a plate p, and shaft bearing b. 9th. A chain pump wheel provided with forks F F¹, braced by braces f placed upon the rear side of the part F. 10th. The combination, with the chain pump wheel w provided with forks F, of the shaft S, ratchet wheel R, ratchet box B provided with track i and roller r. 11th. The shaft provided with chain and stop motion wheels, in combination with a housing over the stop motion wheel, provided with stop. 12th. The shaft provided with self-locking chain and stop motion wheels, in combination with a housing over the stop motion wheel provided with stop.

No. 14,225. Improvements on Electric Lamps.

(Perfectionnements aux lampes électriques.)

Edwin M. Fox, New York, N. Y., U. S., 21st February, 1882; for 5 years.

Claim.—1st. The combination of a vacuum chamber formed with a tubular neck portion and an apertured sealing plug. 2nd. The combination, with the vacuum chamber A, having tubular neck a, of sealing plug b formed with aperture e and carrying the conducting wires and carbon. 3rd. The combination, with a vacuum chamber of an electric lamp, of tubular neck formed with a drawing aperture at one side, and an apertured sealing plug or cap fitted to close the end of the neck. 4th. The tube n sealed in the side of the vacuum chamber and forming the passage for the conductors. 5th. The carbon holders n fixed by soldering or similar means to the end of the carbon, combined with the conductors having clamping devices for receiving the ends of the holders.

No. 14,226. Improvements on Door Hangers.

(Perfectionnements dans la suspension des portes.)

Wilbur F. Berry, Martinsburgh, W. V., U. S., 21st February, 1882; for 5 years.

Claim.—1st. The combination, with the supporting sheaves of a door hanger, of a vertically adjustable track arranged above the door and constituting a way for the said sheaves. 2nd. The combination, in a door hanger, of the sheaves G G having bevelled or inclined perimeters and the corresponding bevelled rails D D. 3rd. The combination, in a door hanger of the headed screw bolts E E, the plates or irons C C, the hollow box B having an open bottom, the rails D D and the nuts F F. 4th. The combination, in a door hanger, of the hollow

block H having spindles on its sides and a circular opening b, the sheaves G G mounted on the said spindle, the hanger rod K and a rounded nut j run upon the said rod and arranged in the opening b. 5th. The combination, with the door plate and sheave axle of a door hanger, of the hanger rod R having thereon a right and left screw thread entering the said plate and axle respectively. 6th. The combination in a door hanger of the right and left screw-threaded hanger rods K K, the plates L L adapted for attachment to the edge of the door, and having therein screw holes to receive the lower end of the said rods, and the sheaves G G adjustably connected to the upper ends of the said rods by means of male and female screws working oppositely from those at the lower ends thereof. 7th. The combination, with the suspended sliding door O, having a groove cut longitudinally in its lower edge, of the guide O¹ arranged in the said groove and having, on its forward or outer end, the lateral foot P. 8th. The combination of the suspended sliding door O, the stop Q pivoted to the rear edge of the said door, and the removable supporting pin R entering the rear edge of the door.

No. 14,227. Improvements on Portable Writing Cases.

(Perfectionnements aux écritoirs.)

Seth Wheeler, Albany, N. Y., U. S., 21st February, 1882; for 15 years.

Claim.—1st. The case for the roll of writing or sketching paper, in combination with the writing tablet on which said paper is unwound and sustained while in use. 2nd. The case for the roll of writing or sketching paper and the tablet on which said paper is unwound and sustained while in use, in combination with the knife edge cross-bar on which to sever the portion of paper containing the writing or sketches from the rest of the roll. 3rd. As an article of manufacture, a portable writing case consisting of a case or paper receptacle and the attached tablet.

No. 14,228. Improvements on Horse Forks.

(Perfectionnements aux fourches à cheval.)

John H. Lux, Earlville, Iowa, U. S., 21st February, 1882; for 5 years.

Claim.—1st. The fork A A¹ having cross-bar B, swinging bail E, hinged lever C C¹, arm D and pivoted dog G. 2nd. The combination of the transversely notched or recessed fork A A¹, side clips F F, shouldered cross-bar B and hinged bail E E. 3rd. The combination, with the fork and its hinged and swinging bail, of the hinged lever C having an upper outwardly curved part C¹, connecting arm D, dog or elbow lever G adapted to work against the curved part of lever C, and trip rope H attached to the short arm of elbow lever G.

No. 14,229. Improvements on Fruit Evaporators.

(Perfectionnements aux appareils évaporatoires à fruits.)

Moore Hill, Vanessa, Ont., 21st February, 1882; for 5 years.

Claim.—The combination of metal plates C with groove E on sides of tray frame, also the open mortises D in combination with screws F.

No. 14,230. Improvements on Railway Frogs.

(Perfectionnements aux rails de croisement.)

John S. Trites, Moncton, N. B., 21st February, 1882; for 5 years.

Claim.—1st. The combination of the rails A B, fish plates C C, bolts a a a a and the halving together of the rails A B, and the fastening them firmly together by means of the fish plates C C and bolts a a a a. 2nd. The combination of long fish plates E E E E with the wing rails D D, secured to the web T of wing rails by bolts h h b and through bolts G S. 3rd. The combination and use of the rubber plate K with the frog and the bottom iron plate L, by placing the same between the bottom of frog and the bottom iron plate L.

No. 14,231. Improvements in Root Paint.

(Perfectionnement dans la peinture à toiture.)

Stephen Phelps, Norwich, Ont., 21st February, 1882; for 5 years.

Claim.—A composition for coating or painting roofs, composed of rosin, oil, varnish, rosin naphtha, litharge and ground slate or silex.

No. 14,232. Improvements on Air Cooling and Compressing Machines.

(Perfectionnements à la machine à refroidir et comprimer l'air.)

John P. Burnham and Oliver G. Burnham, Chicago, Ill., U. S., 21st February, 1882; for 5 years.

Claim.—1st. In an air cooling or air compressing machine, the tapering plunger L combined with the valved shell B of interior form corresponding with the plunger, and having an extension of uniform diameter at its larger end. 2nd. The shell inclosing the chamber H provided with an inlet valve V and a suitable outlet, the surrounding cooler and the reciprocating plunger L combined with each other and with suitable actuating mechanism, whereby air is admitted at V, is compressed and cooled about the plunger and is discharged at the end of the plunger, opposite that at which it is admitted. 3rd. The shell inclosing a chamber H having a valved inlet and outlet passage suitably arranged, combined with the piston P and plunger L, and with actuating mechanism, giving to the piston and plunger differential movements within the chamber. 4th. The apparatus where the air is compressed, about the plunger, and is passed from one end to the other thereof, the valved shell A B having its upper portion conical or tapering, combined with the plunger of corresponding form. 5th. The air cooler wherein the air is compressed about the plunger and passes from one end to the other thereof, the plunger L made hollow and provided with the induction and ejection water pipes N N. 6th. In combination with the annular or circular water chamber, an air cooling machine having an upper discharge and a

bottom inlet, means for giving the water an upward spiral course through said chamber. 7th. In combination with the annular or circular water chamber, an air cooling machine having an upper discharge, and an induction water pipe delivering at the bottom of said chamber, the extremity of said induction pipe deflected to one side, whereby the water is delivered laterally and takes an upward spiral course to the outlet. 8th. In combination with the plunger I, having the valve rods N, and with the piston P arranged to work in the chamber H, the actuating mechanism consisting of the shaft A, cam D, crank pin d, pitman E and the system of levers and connections O Q I J and JI. 9th. The cylinder A having the outlet A', combined with the elongated piston P, arranged to open and close said outlet.

No. 14,233. Improvements on Railway Cars.

(*Perfectionnements aux chars des railroads.*)

Thomas L. Wilson, Port Hope, and Eugene H. Davis, Toronto, Ont., 21st February, 1882. for 5 years.

Claim.—1st. A car having hoppers constructed in its bottom, a series of transverse joists H permanently secured over the top of the hoppers, in combination with the longitudinally arranged bars b fixed to the joists H, so as to form a permanent flooring capable of carrying ordinary merchandise, without presenting serious obstruction to the free passage of grain in the hoppers. 2nd. A car having hoppers constructed in its bottom and a skeleton frame permanently fixed over the top of the hoppers, a series of ferules or sleeves I arranged between the transverse joists H and longitudinal timbers A, in combination with bolts K passing through the said ferule and through the joists M and timbers A, the said bolts being screwed and provided with nuts for straining the timbers together. 3rd. A car having hoppers constructed in its bottom, the cross timbers D securely bolted to the longitudinal timbers A and braced together by the bolts F, in combination with the timbers D', the whole arranged for the purpose of forming a suspension frame for supporting the hoppers. 4th. A car having hoppers constructed in its bottom, suspension frames constructed and located in proximity to the trucks, for the purpose of preventing them slewing. 5th. A car having hoppers constructed in its bottom, a sliding door I supported in grooved guides M, which are bolted upon the bottom of the inner longitudinal timbers D' of the suspension frame, in combination with a pivoted lever N connected to the door I by the rod O and extending over a quadrant V having pin holes made in it, for the purpose of adjusting and regulating the opening of the door. 6th. A car having hoppers constructed in its bottom, straining timbers F arranged below the hoppers, in combination with stay rods arranged to form a truss for supporting the bottom of the car.

No. 14,234. Improvements on Fences.

(*Perfectionnements aux clôtures.*)

John M. Rowe, Claibourne, Ohio, U. S., 21st February, 1882; for 5 years.

Claim.—The combination of the post A, uprights B, base pieces C and braces D, the adjustable and removable bars L, the panels H having braces K, and the wedge M.

No. 14,235. Improvements in Dynamo-Electric Machines.

(*Perfectionnements aux machines électro-dynamiques.*)

Thomas L. Willson, Hamilton, Ont., 21st February, 1882; for 5 years.

Claim.—1st. In combination with an armature D as cut, grooved and bored, of the wire coils E, the ends of which are connected to the commutator. 2nd. In combination with commutator F, the holes e in the end of commutator bars for the reception of the ends of coils of wire, the same being held in place by set screws v. 3rd. In combination with the field magnets B, the grooves A cast thereon at right angles to the longitudinal direction of the magnet. 4th. In combination with the dynamo-electric machine, an adjustable brush-holder G having a bearing upon the brass brush e, with a hand wheel I on the outside of the frame of the machine, to adjust the same. 5th. In combination with a dynamo-electric machine, the brush holders G constructed independent of each other, so that each brush may be set at any pressure upon the commutator cylinder. 6th. In a dynamo-electric machine, the combination of commutator F, brushes G, brush-holders G G, arms f, e, gear wheel H, pinion I, hand wheel J.

No. 14,236. Improvements on Steam Engines.

(*Perfectionnements aux machines à vapeur.*)

William J. Boland, Chicago, Ill., U.S., and Michael Byrnes, Hull, Que., 21st February, 1882; for 5 years.

Claim.—1st. The combination, with the steam chest or having chamber c, and cylindrical chambers or nozzles provided with exhaust ports and passages B B communicating with exhaust nozzle E, of the piston valve P P recessed at G and provided with ports S S at opposite ends thereof. 2nd. The rocker beam B, the projections Z Y Y' Z'.

No. 14,237. Improvements in Treating Caoutchouc with Hydrocarbon or other Oils.

(*Perfectionnements dans le traitement du caoutchouc au moyen des hydro-carbures ou autres huiles.*)

Hermann Kurth and Richard H. Thompson, Buffalo, N.Y., U.S., 21st February, 1882; for 5 years.

Claim.—1st. A water proof compound and anti-frictional oil, obtained by treating crude caoutchouc with petroleum or hydro-carbon oil in about the proportions stated, to get first a plastic or mucilaginous mass and a fine caoutchouc oil, and subsequently treating the mass with crude oil for a rust preventative or water-proof covering for metal and other surfaces. 2nd. The anti-friction caoutchouc oil obtained, by treating crude caoutchouc with hydro-carbon oils, at a

natural temperature, and then combining the same with lard oil, tallow or animal fats, making a superior lubricating compound for journal bearings, etc.

No. 14,238. Improvements on Clothes Washing Machines.

(*Perfectionnements aux machines à laver le linge.*)

Louis C. Eggert, Walkerton, Ont., 21st February, 1882; for 5 years.

Claim.—1st. The wringer box N, or place for a wringer. 2nd. The soap disk X fastened to the side of the box or tub. 3rd. The upright posts I I on which the operating part of the machine is hung. 4th. The lever shafts B B connected to the swinging K K and worked by the handle or cross bar A. 5th. The scrolled boards C connected to the shafts B B. 6th. The rubbing board D made in three sections and fastened to the scroll board C with screws. 7th. The iron boxing F made of two strips of cast iron and sunk into the roller bearers G, to form a continuous boxing in which the rollers revolve.

No. 14,239. Improvement on Ice Tools.

(*Perfectionnement des outils à glace.*)

John R. Fischer, Walter Bare, Hamilton, and Martin Bare, Cincinnati, Ohio, U.S., 21st February, 1882; for 5 years.

Claim.—1st. The improved ice tool, composed of handle A and tool prongs H I projecting from the handle in opposite direction. 2nd. The handle having an angular mortise through it near one end, and the tool H having shank C with the bend G at their juncture. 3rd. The mortised handle, A and double tool H I, having intermediate body C and bend G, at the juncture of the body with one of the tool ends. 4th. The handle A having an angular tool mortise at one end, and the double tool H I having intermediate body C and bend G at the juncture of the body with one of said tool ends. 5th. The combination of handle A, semi-tubular clamps D having tool mortises arranged angularly in their contiguous end faces, and clamping bolts E E.

No. 14,240. Improvements on Rocking Chairs.

(*Perfectionnements aux chaises à bascule.*)

Ernest Krieghoff and William K. Kains, London, Ont., 21st February, 1882; for 5 years.

Claim.—1st. An oscillating chair in which the upper portion A B is hinged to the lower part C controlled by spring E, or their equivalents. 2nd. In an oscillating chair the above described arrangement of parts, namely: back A, seat B, stand C, hinge D, springs E, extension G and studs H I J K.

No. 14,241. Improvements on Horse Rakes.

(*Perfectionnements aux râteliers de cheval.*)

John Watson, Ayer, (Assignee of Albert J. Willson, Toronto), Ont., 21st February, 1882; for 5 years.

Claim.—1st. A horse rake in which each ground wheel is secured to an axle working independently of the other, but whose centres are on the same line, a two-faced friction disk, journaled on the ends of the two axles and suitably connected to the rake bar, in combination with two friction disks, one on either side of the two-faced disk and each secured to its respective axle, so that they revolve therewith, but may at the same time be adjusted endwise, so as to come in contact with the two-faced disk between them, for the purpose of imparting a rolling movement thereto. 2nd. A horse rake in which the ground wheels revolve with their axle, a friction disk journaled on the said axle and caused to roll therewith by an adjustable friction connection, an arm extending from the friction disk, in combination with a bar or link forming a toggle joint between the said disk and a bracket on the tooth bar. 3rd. A horse rake in which each ground wheel is secured to an axle, working independently of the other, but form in connection a support for a two-faced friction disk connected to the tooth bar and on either side of which is situated an adjustable friction disk, a lever pivoted behind each disk and provided with a friction roller, to prevent the pressure of the lever impeding the rotary movement of the disks when pressing them against the two-faced disk between them, in combination with two rocking plates, one for each lever and connected together by a bolt passing through oblong holes in the plates and connecting them to a crank, so arranged that its movement will rock both plates simultaneously, thereby moving the levers either towards or from the adjustable friction disks, for the purpose of bringing them against the two-faced disks between them or releasing them from as required. 4th. A stationary cross-bar with brackets at either end, to carry the rolling tooth bar, the combination of a centrally located bracket or brackets B' provided with a bearing ring E z.

No. 14,242. Improvements on Harvesters.

(*Perfectionnements aux moissonneuses.*)

John P. Mammy, Rockford, Ill., U.S., 24th February, 1882; for 15 years.

Claim.—1st. The combination of a main frame and axle projecting over the stubble side thereof, a main gear wheel mounted on the projecting part of such axle between the main frame and the driving wheel mechanism, by which said gear wheel is adapted to drive both the rake and the reel bats and backing ratchets, and shipping mechanism interposed between such gear wheel and the driving wheel. 2nd. The combination of the rake driving shaft, the counter-shaft carrying the gear for driving the cutters, and the main gear wheel mounted on the main axle and provided with both a spur gear and a bevel gear, for operating the counter shaft and the rake driving shaft. 3rd. The combination in a front cut harvester, of a main frame which rocks or vibrates about the main axle, a draft frame or pole hinged to the front part of such frame, a lifting lever mounted on the rear part of the main frame behind the axle, a rod or link K connecting such lever with a post mounted on the rear part of the draft frame at or near its hinge, and a driver's seat arranged in rear of the axle and at a point in advance of the lifting lever.

No. 14,243. Improvements on Harvesters.

(*Perfectionnements aux moissonneuses.*)

John P. Manny, Rockford, Ill., U.S., 24th February, 1882; for 15 years.

Claim.—1st. The grain platform composed of the transverse carrying beam D, and the two sections G G arranged on a common plane within the upper surface of such beam. 2nd. The combination of a permanent carrying beam arranged in the line of the driving wheel and the grain wheel, and a platform constructed in two parts, the rear one of which is made detachable. 3rd. The combination of a carrying-beam, supporting the front edge of the rear part of the divided grain platform, and a rigid overhanging wing or fence, supporting the back part of such portion of the platform. 4th. The casting F constructed so as to support the grain wheel, the divider, the wing I and the brace for the outer end of the finger beam. 5th. In combination with the finger beam, the shoe, guards and front edge of the platform, all arranged on the upper surface of the finger beam.

No. 14,244. Improvements on Harvesters.

(*Perfectionnements aux moissonneuses.*)

John P. Manny, Rockford, Ill., U.S., 24th February, 1882; for 15 years.

Claim.—1st. A rake supporting standard carrying the rake-driving shaft, and projecting forward from the axle and the main gear wheel of the machine, and above and across the counter shaft of the same. 2nd. The combination of a stationary rake guiding cam, a revolving rake hub, and a revolving reel hub, these several devices being mounted on a common post, and the rake hub being placed above the reel hub. 3rd. The combination of a revolving reel hub, with the beater arms rigidly secured thereto, a rake hub revolving around the same centre, a rake pivoted to such hub and a cam constructed and arranged so as to cause the rake to rise above and fall below the path of the bats or beaters. 4th. The combination, of a revolving reel hub, a rake hub arranged above the same and revolving around the same centre, a rake pivoted to such hub, a cam for controlling the vertical movements of the rake and causing it to descend below and arise above the path of the bats, and a shipping mechanism arranged to show the rake out of gear and bring it to a rest when raised above the path of the bats. 5th. The combination of a revolving reel hub, a rake hub driven thereby and revolving around the same centre, a stationary cam guide for controlling the vertical movements of the rake, suitable shipping devices for disengaging the rake mechanism from the reel hub, and a stop arranged in connection with the cam, to prevent the forward movement of the rake when thus disengaged. 6th. In combination with the revolving rake hub, and the cam for controlling the movements of the rake, a depression in the cam track, or groove, for receiving the friction roller or lug on the rake arm, and thus arresting the advance of the rake, when the rake hub has been disengaged from the reel hub. 7th. The combination of the tubular rake post, the shipping rod mounted therein and the clutch pin arranged in a suitable bearing on the rake hub, and provided with a head for engaging with the head on the shipping rod when the latter is raised. 8th. In combination with the shipping rod mounted in the tubular rake post, and provided with a suitable head for acting upon the head of the clutch pin, a system of levers for operating the same, extending in front of the main driving wheel and connecting with a treadle, or some equivalent device, located under the easy control of the driver. 9th. The combination of the reel bats and the rake constructed and arranged in such manner that the rake, in descending to the platform, is made to follow immediately behind a bat so as not itself to act as a bat or beater on the standing grain. 10th. In combination with a rearwardly inclined rake post, the rake pivot arranged diagonally to the rake arm, so as to regulate the speed of the rake in different parts of its path.

No. 14,245. Improvements on Cooking Stoves.

(*Perfectionnements aux fourneaux de cuisine.*)

The American Stove Manufacturing Company, Belleville, Ill., (Assignee of William N. Vining, Southwick, Mass., and Edouard A. Quesnel, St. Louis, Mo.) U.S., 24th February, 1882; for 5 years.

Claim.—1st. The combination of the casing C having the register E and the burner B. 2nd. The combination of the burner B, the casing C and the chamber F. 3rd. The combination of the chamber f₁f₂, the casing C, the projections e₁e₂, the hook e₃ and eye f₄. 4th. In the stove A, the combination of the chamber F, the burner or burners B, the chamber G and the chamber H. 5th. The combination of the burner or burners B, the chamber G and the chamber H. 6th. The combination of the chamber F, the casing or casings C C₁ and the registers E E. 7th. The combination of the chamber G, the flue I I₁ I₂ and the oven J. 8th. The combination of the oven J, having the openings j₁ j₂, the flue I and the flue K. 9th. The combination, in an oil or gas stove, of the chamber G, the oven J and the chamber H, the heated currents passing from the chamber G to without the stove, via either or both of its apartments J H. 10th. An oil or gas stove in which the heated currents can be directed from the combination chamber above the burner, either directly out of the stove without passing through the oven and thence to without the stove. 11th. In the stove A, the moveable rest M.

No. 14,246. Improvements on Thrashers and Separators.

(*Perfectionnements aux machines à battre et à séparer les grains.*)

The McDonald Manufacturing Company, (Assignee of Henry Hardgrave.) Fond du Lac, Wis., U.S., 24th February, 1882; for 5 years.

Claim.—1st. The combination, with the thrashing cylinder and straw conveying and separating mechanism, of a beater arranged over the straw conveying and separating mechanism, and in rear of the thrashing mechanism, said beater composed of a smooth cylinder having the round ribs secured on the periphery thereof, and the ends of the axle or journals of said beater, arranged in adjustable bearings or boxes. 2nd. The combination of the inclined separating and straw

conveying pan E having a corrugated or serrated imperforate bottom, composed of transverse overlapping bars having rearwardly projecting forks or fingers, the inclined separating and straw conveying pan F arranged in rear thereof, and mechanism whereby said pans are adapted to receive rising and falling, and longitudinally vibrating or reciprocating movements in opposite directions. 3rd. The combination of the inclined separating and straw conveying pan E having a corrugated or serrated imperforate bottom composed of transverse overlapping bars, having rearwardly projecting forks or fingers, the forks or fingers of each bar arranged intermediate of, or alternating with the forks or fingers of the succeeding bars, and the inclined separating and straw conveying pan F arranged in rear thereof and adapted to receive the straw and grain from said pan E. 4th. The combination, with the separating and straw conveying pan E and the separating shoe K, of the separating and straw conveying pan F arranged in rear of pan E and over shoe K, and having a bottom, the front portion of which is composed of overlapping bars having rearwardly projecting forks or fingers, the rear portion composed of reversely arranged overlapping bars having rearwardly projecting forks or fingers, and an intermediate slotted portion through which the grain passes. 5th. A separating and straw conveying pan having a corrugated or serrated closed bottom and rows of rearwardly projecting forks or fingers G having teeth g and rearwardly projecting ends g₁. 6th. A separating and straw-conveying pan, having a corrugated or serrated bottom formed by overlapping bars having rearwardly projecting forks or fingers with teeth g and rearwardly projecting ends g₁, the forks or fingers of each bar arranged intermediate of, or alternating with the forks or fingers of each succeeding bar.

No. 14,247. Improvement on Upright Pianos.

(*Perfectionnement des pianos droits.*)

Charles E. Bourne and William Bourne, Boston, Mass., U.S., 24th February, 1882; for 5 years.

Claim.—1st. The jointed fall board A B suspended by the arms C C D D. 2nd. The fall board A B, lever E and music rack F.

No. 14,248. Improvements on Refrigerators.

(*Perfectionnements aux garde-manger.*)

James T. Gurney and Samuel Little, Boston, Mass., U.S., 24th February, 1882; for 5 years.

Claim.—1st. The detachable ice receptacle for refrigerators, having side walls A A, the lips b b projecting inwardly from the planes of said side walls, the lips c c projecting outwardly from said planes, and the apertures a a between the inner lips b b and the outer lips c c. 2nd. The combination, with the refrigerator having sockets h h, in the side walls F, of the detachable ice tank having the walls a a provided with the arms E E and the hooks g g situated outside of the planes of side walls, and having the apertures a a, the inwardly turned lips b b and the outwardly turned lips c c. 3rd. The ice tank having the walls A, the apertures a a, the outwardly turned lips c c and the lips b turned inward and coiled upward, to form supports for the rack. 4th. The combination of the tank having the apertures a a, the inwardly turned lips b b, the outwardly turned lips c c, the perforated bottom C, the drip pan K suspended beneath the tank, and the pipe D.

No. 14,249. Improvements on Refrigerator Waggon.

(*Perfectionnements aux wagons frigorifiques.*)

James T. Gurney and Samuel Little, Boston, Mass., U.S., 24th February, 1882; for 5 years.

Claim.—1st. A supplementary compartment above the refrigerating compartment, adapted to receive material which it is not desired to refrigerate. 2nd. A compartment in the rear of the waggon, adapted to be used for the cutting and trimming of meat and communicating with the refrigerating compartment, by means of an opening and closing door.

No. 14,250. Improvements on Fire Escape Ladders.

(*Perfectionnements aux sautoirs d'incendie.*)

Obadiah Sherwood, East Fairfield, Vt., and Herbert R. Bartlett, Brownton, Minn., U.S., 24th February, 1881; for 5 years.

Claim.—1st. The combination of the ladder truck A B, adjustable turn table C having grooved and notched incline D provided with the pulley E, windlass F₁ and rope c, hinged extension prop F F₁ having rope h and windlass i, and hinged ladder sections G. 2nd. The ladder truck A B, turn table C, hinged ladder section G having the hinged bracket I K K and sliding extensions G₁G₂, safety hooks H with their stops t, and any ropes L L M M. 3rd. In combination with the truck wheels B B, the brake mechanism, or attachment, composed of two pairs of hinged arms s s having the brake blocks or shoes R R, parallel cross-bars T T and hinged segmental bar U having offsets W W. 4th. An improved extension ladder fire-escape composed of the truck A B with its brake attachment, turn-table C provided at one end with the hinged ladder N, and at the opposite end with a hinged prop O, grooved and slotted incline D having pulley E, windlass F₁ and rope c, extension prop F F₁ having windlass i, rope h and roller j, hinged ladder section G having sliding extensions G₁G₂ with their tackle P P₁ and windlass Q, and adjusting or balancing screw m, hinged brackets I K K and guy-ropes or stays L L M M.

No. 14,251. Improvements in Apparatus for Separating and Amalgamating Gold and other Precious Metals.

(*Perfectionnements à l'appareil à séparer et amalgamer l'or et au res métaux précieux.*)

Charles Taylor, Montreal, Que., 24th February, 1882; for 5 years.

Claim.—1st. An apparatus for amalgamating gold, or other precious metals, one or more drums, or cylinders rotated in pans or dishes

containing mercury and provided with beaters or floats serving to immerse and draw through said mercury the particles holding the precious metal. 2nd. A drum or cylinder sheeted with copper or substance of like properties, and provided with beaters on its periphery of similar material. 3rd. The pans F F. 4th. In combination with a water wheel C, the drums E E revolving in pans F F, and shaking table H. 5th. The grating I extending from the sluice to a point beyond the machine. 6th. In combination with a sluice for washing gold and other precious metals, a drum constructed as described and revolved by water power from said sluice, in a pan containing mercury.

No. 14,252. Improvements on Steam Boiler Furnaces (*Perfectionnements aux foyers des chaudières à vapeur.*)

Orland D. Orvis, Chicago, Ill., U.S. 24th February, 1882; for 5 years.

Claim.—1st. The combination with a furnace and with each other, of the horizontal steam and air inlet pipe E opening into the furnace, in a horizontal plane just above the burning fuel, and at an oblique angle to, and toward the rear end of the furnace, the vertical and straight air supply pipe E', vacuum chamber or globe D, the horizontal steam jet C entering the vacuum chamber and the steam supply pipe C₂, said pipes and globe being arranged upon the outside of the furnace. 2nd. The combination, with the steam and air supply pipes, the inlet pipe and an intermediate vacuum chamber, of an auxiliary vacuum chamber arranged within the air supply pipe, whereby a strong and steady current of oxy-hydrogen is induced into the furnace. 3rd. The combination, with a steam boiler furnace and with each other, of combined steam and air inlet pipes, oppositely arranged upon, and entering the sides of the furnace in a horizontal plane, just above the burning fuel, at an oblique angle to, and toward the rear end of the same, whereby said inlet pipes are adapted to direct streams of air and steam from opposite sides of and towards the rear of the furnace, so that said streams will intersect and intermingle with each other at the centre of width of the furnace. 4th. In a steam boiler furnace, the combination, with steam and air inlet pipes, oppositely arranged upon, and entering the sides of the furnace in a horizontal plane just above the surface of the fuel and at an oblique angle to, and toward the rear end of the same, of steam and air inlet pipes arranged upon and entering the front of the furnace, so as to converge at the centre of width and toward the rear of the same. 5th. The combination, with the combined steam and air supply pipes, of a cone arranged within the latter, whereby the noise caused by the rushing steam and air is diminished. 6th. The combination with a furnace, of one or more elbow-shaped steam and air inlet pipes pivotally arranged upon the sides, or front, or both, of the furnace, so that they may be revolved upon their axes, whereby said inlet pipes are adapted to be adjusted to varying depths of fuel within the fire chamber of the furnace. 7th. In a furnace, the combination, with the adjustable sleeved pipe E, of the lever F and spring G, said lever and spring engaging with each other.

No. 14,253. Improvements on Furnaces for Heating Ovens and other Heating Purposes. (*Perfectionnements aux foyers des fours et autres appareils de chauffage.*)

Edward A. Cullerton, Toronto, Ont., 24th February, 1882; for 5 years.

Claim.—1st. A furnace constructed and arranged so as to be movable and to travel from an active heating position in the interior of an oven downwardly, to an inactive position below the floor and out of the oven, and the orifice in said floor closed by a sliding damper, thereby shutting off absolutely and entirely any heat from the furnace, until again required therein, when the damper is withdrawn from said orifice and the furnace again raised to its active and effective position therein, by means of simple mechanism specially constructed therefor, consisting of a rack and pinion with which axle or its equivalent. 2nd. In combination with the travelling furnace B, the flue *f* with damper *e* leading from above the furnace, when in its lowered position, to a hot air chamber R above or near to said oven, also the flue *A* with damper *a* leading from below the said furnace, when in its lowered position, to the chimney C. 3rd. In combination with the travelling furnace B, a pipe S with damper S₁ leading from the atmosphere to the hot air chamber Q, also a pipe F with damper *t* leading from the said hot air chamber to other parts of the building. 4th. In combination with the travelling furnace B, a furnace front L having a mica window W above the floor of the oven, a hinged hopper door M for supplying coal to the furnace, an aperture N required for shaking and tipping the grate I, and an ash-pit door P.

No. 14,254. Improvement on Nut Locks.

(*Perfectionnement des arrêts-écrous.*)

Alexander F. Macdonald, Winnipeg, Man., 24th February, 1882; for 5 years.

Claim.—1st. The locking plate F having nut apertures G G, bolt holes H H; and cuts K K longitudinally from the ends of the plate, thence half-way around the space to be occupied by the nuts of the bolts to pass through the bolt holes H H, and thence in a longitudinal direction towards apertures G G, whereby two sections I J are formed at each end of the plate, one section to pass under said nuts to hold the plate against the fish plate, and the other section to spring up against the sides of the nuts to prevent them turning. 2nd. In combination with rails A B, fish plate C, bolts D D₂ D₃ and nuts E E E₂, the locking plate F having apertures G G receiving nuts E₁ E₂, holes H H; to pass bolts D D₂ and subdivided by a cut K longitudinally from both ends, leaving the bolt holes intact and passing halfway around the confines of said nuts E E₃, whereby sections I J are formed, sections I being free to spring up and thereby lock the nuts D D₃, and a portion of section J underlying said nuts clamped thereby to the fish plate, to confine the locking plate in position.

No. 14,255. Improvements in Railway Spikes. (*Perfectionnements aux chevilles des railrotes.*)

Joshua B. Barnes and Edmund Lincoln, Fort Wayne, Ind., U.S., 24th February, 1882; for 5 years.

Claim.—1st. A flat bar of metal A of the requisite length and width, said bar being strengthened by the application to its outer surface only, of the projecting portion B and having upon its upper end a head C which is formed upon both the bar A and portion B in such a manner as to leave, upon each side of the strengthening portion B, projecting lips C₂ C₃ under which to place the claws of a withdrawing bar.

No. 14,256. Improvement in Car-Couplings. (*Perfectionnement dans les attelages des chars.*)

Fletcher Tarble, (Assignee of Lee L. Chase), Swanton, Vt., U.S., 24th February, 1882; for 5 years.

Claim.—1st. The combination of the draw-head having the double inclined partition and its mouth, with the link extended through such partition supported by an arm, and also with the catch levers applied to such draw-head, and provided with mechanism for moving them (the said catch levers) as explained. 2nd. The combination for operating the two lever catches D, to effect disengagement of one of them from a link C, such combination consisting of the rock shaft K, two crank wheels *i*, four links *h*, two cross bars *g* and the rocker shaft having handles. 3rd. The combination of the lever *m*, litter rod *o* and link *n*, the rock shaft K, two crank wheels *i*, four links *h* and two cross bars *g*.

No. 14,257. Improvement in Door Securers. (*Perfectionnement des fermetures de portes.*)

Jeremiah Lockwood, Sullivan, Ind., U.S., 24th February, 1882; for 5 years.

Claim.—The prongs, bars A A' having the shoulders *c* and stop *d*, the strap links *b* and the sliding sleeve D having the extensions *y*.

No. 14,258. Improvement in the Manufacture of Insulated Wires for Electrical Purposes. (*Perfectionnement dans la fabrication des fils isolés pour des fins d'électricité.*)

Henry A. Clark, Boston, Mass., U.S., 27th February, 1882; for 5 years.

Claim.—1st. An apparatus for placing a strip of tin-foil upon an insulated electric wire, so that the tin-foil shall run in parallel lines with the length of the wire, the same consisting of a tube or folder E, which tapers from end to end and is otherwise constructed for the passage of the tin-foil strip and wire lengthwise through it, and as they so pass, to bend and loosely wrap the former around and about the latter, in combination with a die or head block F having an opening *f*, constructed to simply compress and close the so loosely wrapped tin-foil about and upon the insulated wire. 2nd. The roll B of tin foil and the roll A of insulated wire, in combination with a guide-way C, a tapering tube or folder E and a die block F having an opening *f* through it, each constructed and severally combined and arranged together in relation to the said rolls B A.

No. 14,259. Process of Desulphurizing and Devulcanizing Waste India Rubber. (*Procédé pour désulfurer et devulcaniser les rebuts de caoutchouc.*)

Henry A. Clark, Boston, Mass., U.S., 27th February, 1882; for 5 years.

Claim.—1st. The treating of vulcanized india rubber to the vapours of turpentine or camphene, or other similar materials. 2nd. The treating of vulcanized india rubber to the vapours of turpentine or other similar materials, after the same has been boiled in water.

No. 14,260. Improvements in the Manufacture of Bricks, Slabs, Paving Stones, etc. (*Perfectionnements dans la fabrication des briques, dalles, pierres de pavage, etc.*)

Ludwig Promoti and Stefan Huebner, Munich, Germany, 27th February, 1882; for 5 years.

Claim.—The process for the manufacture of bricks, slabs, paving stones and other similar articles, in which the clay composing them after being mixed with hot water and passed through crusting and pug mills, is moulded into shapes, covered with bricks or tile powder and after remaining in a drying room for three days, is placed in a press where it is submitted to great pressure and then inserted into a furnace where it is kept for about five days.

No. 14,261. Improvements in Carriages. (*Perfectionnements dans les voitures.*)

George R. McCrea, Bowmanville, Ont., 27th February, 1882; for 5 years.

Claim.—1st. The side rails C C so constructed and secured to the seat A and to the back bar B, as to support the back rest E, F F secure the lower end of back stays D D and the back stays yokes F F to the said back bar B, and to support the hinged ends of the front and back bows M. 2nd. In combination with the side rails C C, the back bar B constructed with the lower arms of toggle joint L, and the lever G attached thereto that the back bar will be free to turn in the split eye bolts J J P P, when raising and lowering the top from the inside of the vehicle by means of the lever G. 3rd. In combination

with the side rails C C, the back corner props I I and front props I I. 4th. In combination with the back bar B, the rubber blocks S S. 5th. The back stay yokes F F constructed separately or connected. 6th. The back corner props I I secured to the seat by split eye bolts, and V-shaped collars V fitting the corners thereof.

No. 14,262. Improvements on Signal Buoys.

(*Perfectionnements aux bouées à signaux.*)

Frank Barr, Captain in the Revenue Marine, U. S., 27th February, 1882; for 5 years.

Claim.—1st. A signal buoy provided with an engine or motor operated by compressed air. 2nd. The combination, with a signal buoy having a downwardly-extending water tube of a compressed air chamber or reservoir, and an engine or motor adapted to be operated by compressed air. 3rd. In combination, a signal buoy having a downwardly-extending water tube, with an air reservoir or chamber, an engine placed within said reservoir or chamber and adapted to be operated by compressed air, and an exhaust leading from the engine or motor to the outside of the air chamber. 4th. In a signal buoy, an air tight chamber or reservoir, and tube extending from said chamber down into still water below the buoy, and adapted, by the motion of the buoy, on the surface of the water, to force air into the chamber, an engine or motor adapted to be operated by the compressed air in the chamber and an exhaust leading from the engine to the outside of the air chamber. 5th. A signal buoy provided with an engine operated by compressed air, dynamo-electric engine driven by the air motor, and an electric lamp or lantern supplied from the electric engine. 6th. The combination, of a signal buoy of a lamp or lantern, a generator or apparatus for supplying the lighting medium to the lamp or lantern, and an automatic engine or motor for operating said generator or apparatus. 7th. In a signal buoy, the combination of an automatic beacon light with an automatic fog signal or alarm. 8th. A signal buoy having an automatic beacon light or alarm, and a downwardly-extending water tube, for supplying the air to operate the beacon light and fog signal. 9th. A signal buoy having an upper air chamber and an open bottom tube or cylinder extending downwardly from the air chamber, and a pipe leading from the tube or cylinder through the air chamber to the outer air, said pipe having a back pressure or similar valve adapted to alternately open the pipe to the outer air but close it to the air chamber, and *vice versa*. 10th. A signal buoy having an air chamber, a boat or float supporting said air chamber, an open bottomed tube or cylinder extending downwardly from the air chamber and divided by a longitudinal diaphragm into two compartments, a pipe leading from one of said compartments to the outer air, a pipe leading from the other of said compartments to the outer air. 11th. The buoy composed of the upper casing or chamber A, and its boat-shaped float or support B with a downwardly-extending water tube C. 12th. The boat-shaped buoy float or support B having a middle reel K extending from the stern toward the middle of the boat, and two side keels or wings L L extending from the middle shaft to the stern of the boat. 13th. The signal buoy A B with downwardly extending water tube C and treble reel K L L attached to an anchoring cable M, by its middle keel K. 14th. The signal buoy A B with downwardly-extending water tube C, connecting cable M, float or turn-buoy W and anchoring cable O.

No. 14,263. Improvements in Machines for Making Brushes.

(*Perfectionnements aux machines pour faire les brosses.*)

James H. Dooca, Portsmouth, Ont., 27th February, 1882; for 5 years.

Claim.—1st. The combination, with the frame or platform A having hinged or tilting table C, of the curved rod D having friction roller E and the wheel or disk G having eccentric groove H. 2nd. The combination, with the bristle box or hopper, of the feeder constructed to reciprocate in an inclined plane, the lever M, lever I, slide N, and suitable connecting rods. 3rd. The combination, with the box or hopper having movable bottom and feed slide, of a slide having finger mechanism, to separate the proper quantity of hair or fibre from the feeder and carry them beyond the latter, into the shuttle and suitably operating mechanism. 4th. The hopper having sliding bottom and finger mechanism, in combination with mechanism to operate the same having slide W, teeth X, Y, with spring Z, with bars C, E, to divide the proper quantity of fibre or hair. 5th. The combination of the box or hopper I having movable bottom N, provided with feed slide and slides W, carrying finger mechanism X, Y, A, B, of the lever N, lever I, having curved end and slide N, and suitable connecting rods. 6th. The combination of the box or hopper I having movable bottom N, longitudinally sliding forked rod A, and the levers B, B, having pointed ends turned inwards, and catches D, with the described shuttle and carrier having hinged lids or covers, with finger or holder G, bar E, and operating mechanism. 7th. The mechanism for feeding the brush block, which consists of a shank or pressure foot F, having a ratchet O, with rubber ring, and pivoted bracket P, provided with a spring pawl Q, lever T, having adjustable fulcrum U, and mechanism for operating said lever. 8th. The combination of the vertically slotted bracket X, with adjustable slide V, having swivelled tube U, lever T, having stud for friction roller D, and the slotted plate A, connected to lever N by rod Z. 9th. The combination, with the lever D having needle block or carrier E, of the slotted tube or casing G, having a spiral spring J, and clamping mechanism H, with rings K, L, catch or bar M, with casing I. 10th. The combination, with the lever D having tension mechanism K, of pin W, slot S, roller U, and hinge V.

No. 14,264. Improvements on the Mode of Exhibiting Photographs and Frames Therefor.

(*Perfectionnements dans le système de montrer les photographies, et cadres pour cet objet.*)

John Dewe, Ottawa, Ont., 27th February, 1882; for 5 years.

Claim.—1st. The improved art of exhibiting photographs, consist-

ing in making the picture translucent, then tinting the back or front with colours to produce natural effect, then placing the picture, thus made translucent and tinted, between two panes of glass, or other transparent material, and then placing at the back of the picture, coloured or highly reflecting surfaces from which light is reflected, whereby the colours, lights and shades transmitted or reflected, are seen by an observer viewing the picture from the front, and a natural effect imparted thereto. 2nd. The art of exhibiting photographs made translucent and tinted, by placing them on a highly polished reflecting surface, whereby the rays of light passing through the front of the picture are reflected back, the colours brought out and the perspective and general effect greatly enhanced. 3rd. The art of exhibiting photographs made translucent and tinted, by placing them between two panes of glass and tinting the back of the rear glass, so as to represent sky, clouds, etc., whereby, when the back of the picture is exposed to the light, the colours, lights and shades are transmitted through the picture imparting to it, when viewed from the front, natural scenic effect. 4th. The combination of the frame A, supported by pivoted legs B B, panes of glass C C, covers D E, hinged pane F, clasp G, shade H, cords I and cleats J, the whole arranged to fold together.

No. 14,265. Improvements on Process and Mode of Manufacturing Pulp.

(*Perfectionnements aux procédés et modes de fabrication de la pâte à papier.*)

Martin Van B. Eichelberger, Dayton, Ohio, U. S., 27th February, 1882; for 5 years.

Claim.—1st. The mode and process of making pulp from vegetable or animal fibre, which consists in the gradual reduction of said fibre by a consecutive series of rubbings between moving surfaces of progressively finer dress. 2nd. The mode and process for the gradual reduction of fibre, vegetable or animal, to pulp which consists in first roughly comminuting the substance without material disturbance of the fibres, and afterwards subjecting them to successive rubbings between surfaces progressively of finer dress, whereby the fibres are separated without breaking them up into dust. 3rd. In the manufacture of pulp from fibre, animal or vegetable, a series of instruments consisting essentially of a cutter A, a mill B and reducers D F G or their equivalents, arranged in consecutive orders so that, as the fibre passes through them, it will be heated successively and reduced to pulp. 4th. A series of reducers D F G, &c., each consisting of a pair of burr-stones or their equivalents, each succeeding pair being finer in dress, so that, as the fibre passes through said reducers it will be successively reduced finer in grade.

No. 14,266. Improvements on Systems of Water Works.

(*Perfectionnements aux systèmes d'aqueducs.*)

George E. Beach, Marshalltown, Iowa, U. S., 27th February, 1882; for 5 years.

Claim.—1st. The combination, with an elevated tank or reservoir, of suitable mechanism for forcing the water from the tank at high pressure. 2nd. The pump K, with means for operating it, in combination with the stand pipe B leading from the reservoir A, the pipe H leading to the town, a pipe and valve D forming a direct connection, pipes I J with valves C E forming the connection through the pump for giving fire pressure when desired, and a separate connection having a self-acting valve F serving to allow the water to pass from the pipe J to the pipe I, whenever the pressure becomes excessive. 3rd. The combination, with the inlet pipe having the float valve A B, of the outer pipe C, having a check valve D. 4th. The combination, with the throttle valve, of mechanism for automatically closing and opening the same. 5th. The arrangement of the blower, operated by the water passing through the mains, to give blast to the fire. 6th. The combination of the tank or reservoir A and a pipe M passing up through it and having ventilator M, with the boiler O and the smoke pipe N therefrom, so that, while the draft from the boiler is not impeded, the heat radiated from the smoke pipe is communicated to the water in the tank, or not, as may be desired.

No. 14,267. Improvements in Devices for Feeding and Watering Stock in Cans.

(*Perfectionnements aux appareils à nourrir et abreuver les animaux dans les chéurs.*)

Alfred D. Tingley, New York, N. Y., U. S., 27th February, 1882; for 5 years.

Claim.—1st. The combination with a frame arranged alongside a car track of separate sliding swinging or movable feed boxes, or cups, and suitable mechanism, whereby said feed receptacles can be moved inside of a car through an opening in its side, and at a proper elevation, to present food or drink to animals in said car. 2nd. In a stock car feeding device, the combination of a main water conducting pipe I, supplementary flexible pipes L and feeding receptacles D attached to an outside framework.

No. 14,268. Improvements on Snow Ploughs.

(*Perfectionnements aux charrires à neige.*)

Joseph Wood, Red Bank, N. J., U. S., 27th February, 1882; for 5 years.

Claim.—1st. A snow plough with the box A having the hinged lid B. 2nd. A snow plough having the box A with the hinged and adjustable lid B, in combination with the divider C. 3rd. The scraper D held in the rails by means of a spring, which will permit them to revolve in either direction. 4th. In combination with a snow plough, the steam chambers. 5th. In combination with a snow plough or other structure, the wheels F F having, on the flanges, saw or bevelled teeth. 6th. In combination with a snow plough, the use of a lubricant.

No. 14,269. Improvements on Reversing Machines for Elevators and Other Machines. (*Perfectionnements aux mécanismes de renversement pour les ascenseurs et autres machines.*)

Volney W. Mason, Providence, R. I., U. S., 27th February, 1882; for 5 years.

Claim.—1st. The bevelled friction wheels E attached to the shaft A, the bevelled friction F attached to the shaft G, the pulleys I K carrying cord J, the eccentric sleeve L, the rim N, the stationary brake O and the stop pin M. 2nd. The combination, with the bevelled friction wheels E F and the shaft A G, of the pulleys and cord I K J and the eccentric sleeve L, whereby the wheel F is shifted from one to the other of the wheels E. 3rd. The combination, with the pulley I, the eccentric sleeve L and the bearings supporting bar C, of the stop pin M, whereby the movement of the pulley and eccentric sleeve is limited. 4th. The combination, with the shifting friction wheel F having rim N, the shaft G, the pulley I and the eccentric sleeve L, of the stationary brake O, whereby the elevator or machine is held from being carried forward by its own weight, while the motion is being reversed.

No. 14,270. Improvements on Lubricators. (*Perfectionnements aux graisseurs.*)

Elijah McCoy, Detroit, Mich., U. S., 27th February, 1882; for 5 years.

Claim.—1st. The combination of a movable piston or partition and means for adjusting it from the exterior, whereby the dimensions of the oil chamber, above the discharge orifice, may be increased or decreased. 2nd. In a lubricator in which oil is displaced by condensed water, a condenser and means for varying it will the area of the condensing surface. 3rd. A glass indicator tube and a moveable metallic sleeve surrounding the same, whereby it may be exposed to view or enclosed at will. 4th. A glass indicator tube, a stationary slotted metallic case, and a slotted moveable sleeve surrounding the latter, whereby the glass may be exposed or entirely housed at will. 5th. A glass indicator tube communicating at top and bottom with the oil chamber and stop-cocks, whereby said communication can be cut off at will. 6th. The combination, with a glass indicator tube, of a packing gasket or ring at its end, and a spring acting to press the packing to its place and permit of expansion or contraction of adjacent parts without breaking the glass. 7th. The combination, with a glass indicator tube, of a packing gasket or ring, a follower, a spring bearing against the follower, and a screw plug for exerting pressure against the spring. 8th. The combination of a movable partition above the exit orifice, exterior means for adjusting the partition and a graduated scale for determining the adjustment. 9th. The combination of an upright discharge tube and an adjustable piston D, the two dressed to corresponding surfaces as that, when brought together, the exit pipe is closed at its top. 10th. A glass indicator tube to indicate the relative height of oil and water in the reservoir, and a slide or shield adapted to be slid over said indicator tube and protect it against damage and against freezing.

No. 14,271. Improvements in Tags for Barbed Fences. (*Perfectionnements aux pendeloques des clôtures barbelées.*)

John J. La Fleur and James L. Langille, Hyde Park, Ill., U. S., 27th February, 1882; for 5 years.

Claim.—The twisted tags combined with fence-wires between the bars, by means of spring catches or clasps.

No. 14,272. Improvements in the Manufacture of Bed Comforts, Blankets, Rugs, &c. (*Perfectionnements dans les fabrications des couvre-pieds, couvertures, nattes, des lits, &c.*)

Charles D. Murdock and Littleton J. Omohemdro, Nashville, Ten., U. S., 27th February, 1882; for 5 years.

Claim.—First joining the edges of the outside material or envelope, with the exception of a single orifice, then shifting the article with raw cotton, then sewing up the receiving orifice and finally beating the cotton smooth within the covering, and quilting the whole together.

No. 14,273. Improvements on Stove Boards. (*Perfectionnements aux sous-poêles.*)

Robert M. Bidelman and Orange Webster, Adrian, Mich., U. S., 27th February, 1882; for 15 years.

Claim.—A fire-proof stove board made of sheet metal and asbestos.

No. 14,274. Improvements on Locomotive Cab Windows. (*Perfectionnements aux fenêtres des cabs de locomotives.*)

Robert M. Taylor, Fredericton, N. B., 27th February, 1882; for 5 years.

Claim.—The heating of the glass or mica of a double window for use in locomotive cabs, by the introduction of heat into the air space enclosed between two sashes.

No. 14,275. Improvements on Hub Borers and Box Setters. (*Perfectionnements aux machines à percer les moyeux et poser les boîtes de roues.*)

Ezra Caswell, Lyons, N. Y., U. S., 27th February, 1882; for 5 years.

Claim.—1st. In a hub borer, the combination of the table B and

frame I forming the bearings for the opposite ends of the boring shaft, and made adjustable in opposite directions to admit hubs of different lengths between them without changing the position of the rim which is clamped to the frame. 2nd. The combination, with the table B, of the socket C, bearing D, right and left screw G and carriages H I provided with clamps \bar{h} \bar{i} . 3rd. The combination of the two clamps \bar{h} \bar{i} made of Y-form, to embrace hubs of different sizes. 4th. The rectangular frame I, carrying the nut F and having arms which pass through sockets provided with set screws, by which the frame can be secured at any adjustment. 5th. The plates K K attached to the face of the frame, for receiving the rim of the wheel, and made adjustable out and in, by means of the lugs \bar{c} and set screws \bar{c} entering slots of the frame.

No. 14,276. Improvements in Tire Shrinkers (Upsetters). (*Perfectionnements aux machines à refouler les bandages des roues.*)

Frederick K. Collier, Albert J. Lovejoy and Lorenzo D. Lansing, Litchfield, Mich., U. S., 27th February, 1882; for 5 years.

Claim.—In a tire upsetter, the combination, with the frame A having a fixed clamp B, and an oscillating arm Ar carrying a movable clamp B', adapted to be operated by rods C C and lever D, of the anvil stem E having detachable anvil H, shouldered socket F and strap G.

No. 14,277. Improvements on Carriage Wheels. (*Perfectionnements aux roues des voitures.*)

Oliver C. Ross, Penfield, N. Y., U. S., 27th February, 1882; for 5 years.

Claim.—The combination with the bevelled ends of the felloe, of the fellow plate or clip, consisting of the wedge-shaped body \bar{d} and the thin edged flanges \bar{c} \bar{c} , said body being thickest in the centres in line with the joint of the felloe, and provided with the dove-tailed hole \bar{e} , to receive the tenon of the spoke, and the flanges being secured to the felloe by the cross rivet.

No. 14,278. Improvement in Buggy Tops. (*Perfectionnement des soufflets des voitures.*)

Thomas Smith, London, Ont., 27th February, 1882; for 5 years.

Claim.—The combination of brace D' provided with notch F, slotted jack C, spring H and pin G.

No. 14,279. Improvement on Stove Backs. (*Perfectionnement aux dos des poêles.*)

Wilken Schenck, St. Paul, Min., U. S., 27th February, 1882; for 5 years.

Claim.—1st. An adjustable stove back consisting of the plates A B C' C' D' D', adapted to be adjusted horizontally and perpendicularly to fit any size stove. 2nd. The plate A formed with its lower part thicker than its upper part, and provided with corrugations \bar{a} . 3rd. The combination of the plates A B C' C' D' D', said plates C' C' and D' D' having the corrugations \bar{m} upon their contiguous surfaces, and the whole adapted to be clamped together by bolts \bar{h} \bar{h} \bar{h} \bar{h} . 4th. The combination of the plates A B C' C' D' D', said plates C' C' provided with the wedge-shaped edges \bar{n} \bar{n} and driving lugs \bar{t} \bar{t} .

No. 14,280. Improvements on Tilting Chairs. (*Perfectionnements aux chaises à bascule.*)

Joseph W. Kenna, Chicago, Ill., U. S., 27th February, 1882; for 5 years.

Claim.—1st. The spider removably pivoted to the revolving upright. 2nd. The combination, with the base and elevating screw, of an upright support connected with such elevating screw, and having open bearings, and the spider provided with journals removably held by such opening bearings. 3rd. The combination, with the base B, the elevating screw C and the upright support connected with such screw and having standards E E', provided with bearings F F' open on their front sides, of the spider arms G (G) provided with round journals having bottom and top grooves or depressions \bar{d} \bar{c} . 4th. The combination, with the spiral spring H, of the horizontal adjusting screw K, extending towards the front of the chair and having the handwheel or thumb nut K' on its forward end, within convenient reach of a person seated in the chair. 5th. The combination, with the elevating screw, the upright support connected with such screw, and the spider pivoted on the upright support, of the adjusting screw H K turning through such upright support, and the spiral spring H held between the rear arm \bar{t} of the spider, and the point of the said adjusting screw. 6th. The combination, with the spider and the spiral spring, of the socket D and the adjusting screw K. 7th. The combination, with the spiral spring H and adjusting screw K, of the guide washer I. 8th. The combination, with the socket D having standards E E' provided with open bearings F F', of the spider removably pivoted in such bearings, the removable spring H and adjusting screw K. 9th. The combination, with the socket D, of the spider removably pivoted thereto, and having front and rear stops \bar{f} \bar{g} , the springs H and adjusting screw K.

No. 14,281. Improvements on Tea Kettles. (*Perfectionnements aux théières.*)

Henry L. Palmer, Brooklyn, N. Y., U. S., 27th February, 1882; for 5 years.

Claim.—1st. The ear A extending from the breast down upon the shell of the kettle, the same being arranged to be rivetted or otherwise secured to the breast and shell, and to sustain the hinged handle. 2nd. The shell made flaring towards its top and provided with a projecting seat for the spout formed of the material of the shell, said shell being constructed so that another shell of similar construction may be nested with it and fitted for the attachment of a breast. 3rd. The combination, with the shell of a tea kettle, of a sleeve for at-

tachment of the spout formed of the material of the shell, and the surrounding gutter for the reception of the solder. 4th. The tea kettle shell, the projecting sleeve for holding the spout made continuous with the material of the shell, and the spout. 5th. The tea kettle having the bottom secured thereon, and having a seat for the spout formed of the material of the shell, and a seat for the breast, the shell being constructed to be united with spout, breast and handle. 6th. The partly finished tea kettle composed of a shell having inclined walls and an attached bottom, a separate breast piece, handle and spout, all constructed to be subsequently united. 7th. The tea kettle in which the shell is provided with an extra coating of metal, at the region of the joint, with the copper bottom for the purpose of preventing corrosion.

No. 14,282. Machine Belt Splice and Fastener. (*Joint de courroie de machine.*)

Thomas Clohecy, Hamilton, Ont., 27th February, 1882; for 5 years.
Claim.—In a sewing machine or other belt C, of a screw splice and fastening D one end of which is screwed into the centre of each end of the belt respectively.

No. 14,283. Improvements on Vehicle Seats. (*Perfectionnements aux sièges des voitures.*)

Frederick Oppenheim, San Francisco, Cal., U. S., 28th February, 1882; (Extension of Patent No. 7166.)

No. 14,284. Improvements on Clamps for Wood Working. (*Perfectionnements aux mordaches des menuisiers.*)

Alon M. Colt, Batavia, N. Y., U. S., 28th February, 1882; for 5 years.
Claim.—A clamp for wood working, composed of a flanged bar provided with an extension supporting an eccentric lever, operating a plunger and a sliding arm.

No. 14,285. Improvements on Elevating, Bagging and Weighing Machines for Grain Separators. (*Perfectionnements aux machines à monter, ensacher et peser pour les séparateurs des grains.*)

Vindex Arnold and John Cawood, Marshall, Mich., U. S., 28th February, 1882; for 5 years.

Claim.—1st. The combination, with a grain carrying trough and a valve alternately opening or closing the covering chutes, of the frame D having a sliding rod and shoulders, the rod I, weighted lever H and platform E. 2nd. In a grain-meter, the combination, with suitable automatic registering mechanism, a hopper C having a suitable valve and a locking frame D, connected by a shaft to the valve and provided with a sliding rod, of the rod I, lever H, weight H and platform E.

No. 14,286. Improvements on Window Blinds. (*Perfectionnements aux jalousies.*)

Abraham Delone, Palmerston, Ont., 28th February, 1882; for 5 years.

Claim.—1st. The convexity and concavity of the slots. 2nd. The eyelet tags at three points of the web on each side, so as to adjust and change the shutting and opening of the slots at different points. 3rd. The whole arrangement of the cords which admits of the different changes of the open and shut parts of the blind.

No. 14,287. Improvement in Car-Couplings. (*Perfectionnements aux accouplages des chars.*)

James A Burns, Sharpsburg, Penn., Delos E. Culver, New York, N. Y., and James S. Negley, Pittsburg, Penn., U. S., 28th February, 1882; for 5 years.

Claim.—1st. A car-coupling consisting of the parts A B, the part B having a spring E which acts upon the part A, causing the two parts of the coupling to lock together. 2nd. A car-coupling composed of the parts A having the points *a* and limbs *d*, with recesses *m*, *r*, and the parts B connected to said parts A and having buffer-heads F and joints *u*.

No. 14,288. Improvement on Garment Samples. (*Perfectionnement des échantillons de vêtements.*)

Henry Leiser, Cincinnati, Ohio, U. S., 28th February, 1882; for 5 years.

Claim.—1st. A new article of manufacture, a flat finished sample profile of a garment, showing quality of material, style and cut, sewing and trimmings, and having a curved recess or outway *a* for inserting the arm edgewise of the profile. 2nd. The flat finished sample profile of a garment having a curved recess or outway and shoulder and side projections *b c* unattached to close the arm.

No. 14,289. Improvements on Motors. (*Perfectionnements aux moteurs.*)

Anthony Iske and Albert Iske, Lancaster, Penn., U. S., 28th February, 1882; for 5 years.

Claim.—1st. A straight tube having a receptacle at each end, allowing the passage of inclosed volatile liquid from one receptacle to the other, under the action of heat. 2nd. A straight tube having each end extended into and nearly through a receptacle, and allow-

ing the passage of inclosed volatile liquid from one receptacle to the other, under the influence of heat. 3rd. The combination of a series of straight tubes, each having its ends extended nearly through the receptacles attached thereto, with a common axis and a source of heat, for causing the rotation of the series as a whole. 4th. The combination of a series of straight tubes, each having a centrally attached bulb or receptacle at each end, with a common axis and a source of heat for causing the rotation of the series as a whole. 5th. The method of operating a motor composed of tubes, and exhausted terminal bulbs or receptacles partly filled with volatile liquid, consisting in causing each bulb or receptacle to dip into heated liquid, during a part of its revolution. 6th. A motor consisting of tubes and terminal receptacles with inclosed liquid shifting *in vacuo*, in combination with a tank or receptacle containing heated water or other liquid, into which the terminal receptacles of the tubes dip. 7th. An adjustable tank for heated water, in combination with the rotating tubes and terminal bulbs or receptacles. 8th. A tank provided with a compartment for holding calorific devices, in combination with the tubes and bulbs of the motor. 9th. A series of elongated compartments or cylinders and connecting tubes provided with volatile liquid shifting *in vacuo*, under the influence of heat, and operating by gravity. 10th. In combination with a series of straight tubes, a series of receptacles or compartments arranged at opposite ends of said tubes, said receptacles being united to one another in the form of a wheel or drum. 11th. The combination of a flexible connecting tube with two air-tight exhausted receptacles provided with easily vapourizable liquid in sufficient quantities to partly fill said receptacles and tube, and a calorific device or devices acting on said receptacles alternately, for the purpose of vapourizing a part of said liquid and causing the remainder to shift *in vacuo*, from receptacle to receptacle. 12th. The combination of a flexible connecting tube with two air-tight exhausted receptacles provided with stem, to which said tube is attached, and with easily vapourizable liquid in sufficient quantities to partly fill said receptacles and tube, and a calorific device or devices acting on said receptacles alternately, for the purpose of vapourizing a part of said liquid, and causing the remainder to shift *in vacuo* from receptacle to receptacle. 13th. The combination of a flexible connecting tube with two air-tight exhausted receptacles provided with easily vapourizable liquid in sufficient quantities to partly fill said receptacles and tube, one or more supporting chains and wheels and a calorific device or devices acting on said receptacles alternately, for the purpose of vapourizing a part of said liquid and causing the remainder to shift *in vacuo* from receptacle to receptacle. 14th. The combination of a pair of pointed bulbs with a flexible connecting tube, a suspending chain and pulley and a heating device. 15th. A heating chamber provided with a sliding sectional top or cover, in combination with a bulb, adapted to automatically open said top in its descent. 16th. A bifurcated heating chamber, having each of its divisions covered by an automatically closing top, in combination with a pair of pointed bulbs, an intermediate support and a flexible connecting tube. 17th. In combination with a pair of bulbs or receptacles and a flexible connecting tube, a heating device arranged to act alternately and directly on each of said bulbs as it descends, keeping up thereby an oscillating movement of said motor. 18th. In combination with a pair of endless chains and a tank or heater, a series of cylinders attached to said chains, a series of tubes connecting said cylinders in pairs, and pulleys for supporting and guiding said chains, so that said cylinders will travel in an elliptical orbit and dip into said tank or heater. 19th. An oscillating tube having at each end a receptacle for volatile liquid and a cover, in combination with a calorific chamber or heater provided with openings for the admission of said receptacles, each opening being adapted to be closed by the appropriate cover after the receptacle has entered. 20th. In combination with an oscillating tube and a pair of receptacles for volatile liquid attached to the ends of said tube, a calorific chamber or heater divided into two parts or passages, and a gate or valve within said chamber or heater connected to said tube in such manner that the oscillation of said tube operates to cut off the hot air from one of said passages, and direct it into another. 21st. In combination with a rigid oscillating tube and terminal receptacles carried thereby, the pivoted gate in the heater, the rock shaft for said gate, the cranks on the said rock shafts and on the pivot shaft of the tube respectively, and the pitman or rod connecting said cranks.

No. 14,290. Improvements on Lubricators. (*Perfectionnements aux graisseurs.*)

George F. Godley, Philadelphia, Penn., 28th February, 1882; for 5 years

Claim.—1st. A hollow or grooved metallic holder, in which is placed a fibrous or other absorbent material, designed and adapted to be located upon the axle bearing and having connection with the oil well of the axle box. 2nd. A lubricating ring consisting of a hollow or grooved metallic holder, in which is placed an absorbent packing. 3rd. An oiling device for car axle boxes consisting of a grooved or perforated ring or bent pipe encircling the axle journal. 4th. An oiling device for axle journals composed of a grooved or perforated ring or bent pipe encircling said journal, and having a packing of fibrous or absorbent material. 5th. An oiling device for car axle boxes composed of a hollow metallic holder or ring perforated on its internal periphery or side, and packed with fibrous or other absorbent material, said parts encircling the axle. 6th. In combination with a car axle journal and its box, a perforated ring or bent pipe packed with fibrous or absorbent material, and a portable or detachable oil receptacle. 7th. An oiling device for car axle boxes composed of a hollow ring having a kerf or perforations packed with fibrous or absorbent material arranged to protrude through said kerf or perforations. 8th. The combination of the axle journal ring D placed on collar *a*, and disk G. 9th. The bearing C having recess *f* and ribs *f'*. 10th. In an oiling device for car axle boxes, a ring adapted to surround the axle journal and provided with necks or buckets. 11th. An oiling device for car axle boxes consisting of a nicked or bucketed ring or chain. 12th. A car axle box B having slots *b* parallel with the axle, in combination with a box B'. 13th. A lubricating ring for journal bearings formed with necks or crevices on its inner diameter. 14th. The nicked or bucketed ring or chain.

No. 14,291. Combined Head Line Holder and Ruler. (*Règle porte-exemple de cahier d'écriture*)

Edwards W. Blackhall, Toronto, Ont., 28th February, 1882; for 5 years.

Claim.—1st. In combination with strips of paper having heads lines for copy books printed on their surface, a plate A having flanged a b bent to form a receptacle within which the strips may be placed and, at the same time, the said flanges present smooth straight edges to act as rulers. 2nd. A metal plate A with flanged edges a b and feed d arranged to form a combined ruler and head line holder.

No. 14,292. Improvements on Doctor Engines. (*Perfectionnements aux machines d'alimentation.*)

George J. Fritz, St. Louis, Mo., U.S., 28th February, 1882; for 5 years.

Claim.—1st. The arm I, pin K in line with main shaft, eccentric wrist L mounted on said pin and rotatable thereon, and wrist pin l, in combination with main shaft J, crank H, wrist pin G and rod M, of the valve. 2nd. The adjustable wrist L K, wrist pin l, pin K, arm I and wrist pin G, in combination with the crank H, shaft J and rod M.

No. 14,293. Improvements on Wash Boilers. (*Perfectionnements aux chaudières de buanderie.*)

James Roberts. New York, N. Y., U. S., 28th February, 1882; for 5 years.

Claim.—1st. In a wash boiler fountain, the combination of the deflectors C, one on either side, with a semi-circular shield B partially encircling them, and with the casing and tube. 2nd. In combination with the washer formed of their non-corrosive metal, the weight G formed of cheaper metal and the fastening device H. 3rd. In a washer, the combination, with the main body or casing of the collar A, having an open joint its entire length and provided with lugs at the lower end on each side, of the joints fastened to the top of the washer, drawing the joint together at this point and throwing it open at the top, adapted to serve with the movable tube D.

No. 14,294. Improvements in Ornamenting Glass. (*Perfectionnements dans la manière d'orner le verre.*)

James Budd, Boston, Mass., U. S., 28th February, 1882; for 5 years.

Claim.—1st. The process for ornamenting glass by applying to the same a liquid dye, to represent any desired wood, the applying photographer's varnish and afterwards heating the glass, before applying various shades of dyes in representation of the shades of respective woods imitated, shellac combined with dry plaster of Paris and suitable dry colours are now applied to form a back ground, to bring out the proper effect and at the same time serve as a backing. 2nd. As a new article of manufacture, sheets of glass ornamented to represent highly polished woods by applying to the same liquid dyes of the proper colour, to represent any desired wood, and covering the same with photographer's varnish to which after heating is applied a backing of shellac, into which is rubbed powdered plaster of Paris with various dry colours.

No. 14,295. Improvement on Horse Collars. (*Perfectionnement des colliers de cheval.*)

George W. Daly and Emerson D. Pinney, Aurora, Ill., U. S., 28th February, 1882; for 5 years.

Claim.—A horse collar made of paper pulp,

No. 14,296. Improvements in Fertilizer Distributors. (*Perfectionnements aux distributeurs d'engrais.*)

John M. Westcott, Richmond, Ind., U. S., 28th February, 1882; for 15 years.

Claim.—1st. A fertilizing distributing device composed of a rotating disk I, in the bottom of the hopper, in combination with a plain orifice J made above the face of the disk, at the rear side of the hopper A, one side of which orifice has a ledge J projecting inward and forming a scraper. 2nd. The smooth rotating disks I and scraper J located upon one side of the orifice J, when said disks are arranged to project through the hopper box A, so as to revolve under the outer edge and across the mouth of the discharge orifice. 3rd. In combination with a fertilizer distributing device composed of the horizontal rotating disks I, scraper J arranged in the box A, the agitator B working in front of the discharge orifice J, on the same horizontal plane. 4th. In combination with a fertilizer distributing device composed of the horizontal rotating disk I, and scraper J arranged in the box A, the agitator B working in the rear of the vertical axial plane of the disk I and in front of the discharge orifice J. 5th. In combination with the fertilizer distributors I J K, the adjustable cut-off and regulating gate L, arranged to operate in front of the discharge orifice J. 6th. In combination with the horizontally rotating disk I, the spider G having hub G, provided with annular bearing Z, and openings f for the escape of dirt. 7th. The spout O, one end of which is attached to the grain distributor D, and the other under the orifice J, for discharging the fertilizing material into the grain tube.

No. 14,297. Process and Apparatus for Distilling Spirits from Grain. (*Procédé et appareil pour distiller les spiritueux avec du grain.*)

Thomas A. Jebb and William T. Jebb, Buffalo, N. Y., U. S., 28th February, 1882; for 5 years.

Claim.—1st. Separating the bran and gluten from the starch contained in the reduced grain and, then mashing, fermenting and dis-

tilling the separated starch alone, whereby purer spirits are produced, and the bran and gluten are preserved in a more useful condition. 2nd. Steeping the grain, then reducing the steeped grain by grinding or beating, then separating the bran and gluten from the starchy liquid by sifting, then mashing, fermenting and distilling the separated starch alone. 3rd. The steeping tank with heated water, then introducing the grain into the water in the form of a spray, whereby the temperature of the mixture is reduced to the proper point, and in maintaining the desired temperature in the steeping tank by replacing the water in the tank from time to time by fresh water previously heated to the desired point. 4th. A steeping tank provided with appliances for admitting water thereto, and permitting the overflow of the excess of water, and a spreader, whereby the grain entering the tank is distributed in a spray or shower. 5th. A grain entering the tank is distributed in a spray or shower. 6th. A closed steeping tank provided with appliances for admitting water thereto and permitting the overflow of the excess of water, a spreader whereby the grain entering the tank is distributed in a spray or shower, and a vapour escape pipe. 6th. A closed steeping tank provided with a grain spout b₂, a spreader b₁₀, conical bottom b₉, water inlet and outlet pipes b₄ b₅ and an overflow pipe b₈.

No. 14,298. Improvements on Wind-Mills. (*Perfectionnements aux moulins à vent.*)

Lyman Carrier, Minooka, Ill., U. S., 28th February, 1882; for 5 years.

Claim.—1st. The combination, with the wheel B, composed of the concentric bands e p, provided with gains, fans n n inserted therein, central spider T and radial arms L of the transversely, cut tire a, provided with the flanges c, and headed bolts l provided with nuts on their screw-threaded ends. 2nd. The combination, with the turn table A, centrally pivoted in the tower by means of the pipe F, of the wheel B having the bearings of the crank shaft upon the side of the turn table, hollow pump rod D, walking beam S, circular lever i, cord j, bucket K provided with an orifice in its bottom, lever n provided with the adjustable weight d, and pivoted tail E connected with the lever n. 3rd. The combination with the hollow pump rod D, of the hollow cylinder S₁, rectangular hollow pieces t secured thereto, and secondary wooden pump rod g having a divided upper end.

No. 14,299. Improvements in the Manner of Attaching Animals to Loads. (*Perfectionnements dans la manière d'atteler les bêtes aux fardeaux.*)

Henry McNally, Woodhouse, Ont., 28th February, 1882; for 5 years.

Claim.—The use of the two bars B B connected together and working on the centre pole A.

No. 14,300. Improvements on Fire-Proof Fabrics and Shields for Buildings. (*Perfectionnements aux étoffes et aux enveloppes réfractaires et coupe-feu pour les bâtisses.*)

John S. Brooks, New York, N. Y., U. S., 28th February, 1882; for 5 years.

Claim.—1st. A flexible fabric, for fire shields or curtains, in a sheet of asbestos paper or its equivalent, provided with a strengthening non-combustible re-enforce. 2nd. A fire shield or curtain composed of a sheet of asbestos paper, or its equivalent, upon a foundation of a sheet of wire gauze. 3rd. A flexible fire shield formed of a strip or sheet of asbestos fabric, or its equivalent, mounted on the asbestos to strip of wire gauze, and the wire gauze turned over on the asbestos to form a hem at the edges, so as to secure the two parts together. 4th. A flexible fire shield formed of a fire proof re-enforced fabric and provided with eyelets and fastenings at its end and edges, whereby one strip may be connected with the next adjacent, and the whole be raised up to the roof of the house. 5th. In combination with a partition separating the stage portion from the audience room in a public building, a drop curtain of asbestos on a foundation of wire cloth. 6th. In combination with the drop curtain of non-combustible material, a cord to suspend the same, but to allow it to drop if the cord is burnt.

No. 14,301. Improvements on Anti-Frictional Bearings. (*Perfectionnements aux coussinets à anti-friction.*)

Thomas R. Ferrall, Boston, Mass., U. S., 28th February, 1882; for 5 years.

Claim.—1st. In anti-frictional bearings, the shells a¹ a² at¹ at², the rollers b b, in combination with the regulators c c and their radial intermediate projections c¹ c² c³ c⁴, adapted to serve as stops for the said regulators against the inside of the flanges a¹ a². 2nd. The shells a¹ a² at¹ at², the rollers b b with their cylindrical recesses b¹ b², the regulators c c with cylindrical projections c¹ c², and radial intermediate projections c³ c⁴. 3rd. The method of making anti-frictional bearings, consisting in casting the shells a¹ with solid ends at¹ at² inserting therein the rollers and regulators, then casting around the abutting shell a², the metal ring e and finally boring out or removing the central parts of the ends at¹ at². For the insertion and reception of the shaft d.

No. 14,302. Improvements in Cooking Boilers. (*Perfectionnements aux chaudières de cuisines.*)

Wilmot Castle, Assignee of William E. Arnold, Rochester, N. Y., U. S., 28th February, 1882; for 5 years.

Claim.—1st. The combination of the supply reservoir C, the heating reservoir D, the tubular water passage E, the casing E, the boiler A, the kettle B and the enclosing condenser K. 2nd. The combination, with the boiler A, and supply reservoir C, of the condenser K, covering the boiler and having an open bottom which rests over the supply reservoir.

No. 14,303. Improvement in Broom Sewing Machinery. (*Perfectionnement des machines à coudre les balais.*)

George McCombs, Washington, and Charles Rogers, Alleghany, Penn., U.S., 28th February, 1882; for 5 years.

Claim.—1st. In a machine for sewing brooms, a broom holding vice having two hinged jaws B B', in combination with pulleys B₁ B₂ in any desired number, arranged on both edges of said jaws, flexible chains B₂ secured at one end to one of the jaws on its opposite edges passing thence over the pulleys and secured at their other end to winding drums, the latter being carried on and receiving motion from a common shaft, and mechanism for rotating such shaft, whereby power for closing the vice is communicated to both edges. 2nd. The combination with the vice B B', of pulleys B₁ B₂, shaft B₃ and winding drums B₄ B₅, said drums having a spiral-shaped winding face, which spiral terminates in an abrupt slotted end b₅ adapted to receive and secure the end of the chain, whereby the chain, as it is wound upon the drum, forms a continuation of the spiral face of the drum. 3rd. In combination, the vice B B', clamping chain B₂ arranged as described, on both edges of the vice, pulleys B₁ B₂, winding drums B₄ B₅ and shaft B₃, one such drum being secured to the shaft by means of a separate fixed disk, and an adjustable bidding mechanism for connecting the disk and drum. 4th. In combination with the clamping jaws B B', pulleys B₁ B₂, chains B₂ and winding shaft B₃ a broom holding vice, a ratchet wheel d fixed to the shaft, and an operating lever D, having pawl d with a spring d₃ for holding the pawl in engagement with the ratchet, and thumb latch D', for throwing it out of such engagement, and locking pawl D₂. 5th. In combination with the outer jaws B B', a broom holding vice, an auxiliary vice arranged within or between such outer jaws, the jaws of the inner vice being adapted to grasp or inclose the shoulder of the broom, and having a range of adjustments up and down within the outer vice with mechanism for effecting such adjustment. 6th. The combination of vice B B₁, sliding support E₂, the vice having a pivot connection near its lower end with the slide, and adapted to move therewith into and out of working position in the machine with slotted sector E₃, bolt E₇ and mechanism for locking the vice as against motion on its pivot, while arranging a broom in the vice for sewing. 7th. The combination of a pivoted broom holding vice, having a gear sector or back F₇ thereon, a worm and shaft F₆ arranged to gear with the sector pivoted arm G, in the free end of which is journaled the worm end of the shaft, and mechanism for moving arm G on its pivot. 8th. The combination of pivoted vice B B₁, having section or rack F₇ thereon, worm shaft F₆, counter shaft F₄, gearing F₅ f₈, ratchet f₅, pinion f₁ with stops and pawl f₆ f₇, rack lever F₃, cam wheel F₂, and driving shaft F. 9th. The combination of slotted guide N₃, sliding block N₂, arranged to move in the slot of the guide, tubular sockets N₆ formed on the slide N₂, needle N secured in one of the sockets, the needle having arranged in its shaft a sliding bar N₃ for opening and closing the needle eye, a movable bumper N₅, and spring arranged in the other socket of N₃, with a rigid connection between the bar and bumper, and a stop N₇ arranged in the line of motion of the bumper to arrest its forward motion. 10th. In combination with the needle of a broom sewing machine, a cord holder and tension mechanism, consisting of a holder r, and an encircling ring or loop s, with mechanism for giving to the holder movement backward and forward through the ring or loop, whereby the sewing cord is bound in the holder while the needle tightens the stitch. 11th. In combination with the needle of a broom sewing machine, a cord-holder arranged in front of its needle and mechanism for moving the holder upward above such needle, as the needle is withdrawn from the broom, whereby the free cord is drawn through the broom above or outside of the stitch. 12th. In a machine for sewing brooms having two sewing needles and in combination with such needles, a cord-holder and tension device consisting of a holder r having a form adapted to the passage of a needle through the same, and a loop s encircling the holder, with mechanism for giving to the holder movement backward and forward through the loop, and simultaneously therewith giving to both ring and loop reciprocating motion in a curved path into and out of the path of one needle and over the point of the other needle. 13th. The combination of rods R S carrying thereon the ring and loop r s, pivoted connection S² through which both rods slide, connection R₂ fixed to one rod and having a limited range of slide motion on the other rod, crank wheel R₃ and a binding or friction device for retarding to a limited degree, the freedom of motion of rod S, through its rear connection S₂. 14th. The combination, with the needle of a broom sewing machine, of the pivoted reciprocating bar H carrying on its free end one or more loose rollers A, lever O, rod H² and slide h⁴. 15th. In combination with the reciprocating unthreading arm H, a rotary hook arm K, adapted by its motion to take the cord from such arm, and straighten out its free end. 16th. In combination with the rotary crank wheel O⁷ and whip arm K of a broom sewing machine, a yield-

ing hook K seated on the end of the arm, and movable in its seat, with spring K₁ connecting the base of the hook with the arm.

No. 14,304. Method of Extinguishing Fires in Kilns and Cooling the Charges Therein. (*Méthode d'éteindre les feux dans les fours et d'en refroidir les charges.*)

Henry M. Pierce, Grand Rapids, Mich., U.S., 28th February 1882; for 15 years.

Claim.—1st. The method for cooling kilns and like chambers, and the charge contained therein, the same consisting in maintaining a circulation through the kiln or furnace, of a non-combining gas, said gas being maintained at a lower temperature than the kiln, and its circulation continued until the contents of the kiln or chamber have been reduced to a sufficiently low temperature. 2nd. The method of extinguishing the fire of a charcoal kiln, or like chamber, and cooling the charge thereof, which consists in cooling the carbonic acid gas generated from the burning or carbonizing mass contained in the kiln or chamber, and then forcing it into and among the charge. 3rd. The combination with a kiln, furnace or heating chamber, of an eduction pipe leading from, at or near the upper part of the kiln, a cooler located above the level of the kiln or furnace, and an induction pipe leading from the cooler to the kiln, whereby an automatic circulation of a cooling gas through the kiln or furnace, can be established and maintained. 4th. The combination, with a kiln or carbonizing chamber, of an induction pipe, an eduction pipe, an exhaust fan and a cooler or refrigerator.

No. 14,305. Improvements in the Manufacture of Charcoal. (*Perfectionnements dans la fabrication du charbon de bois.*)

Henry M. Pierce, Grand Rapids, Mich., U.S., 28th February, 1882; for 5 years.

Claim.—1st. The method of utilizing the uncondensed gases developed in carbonizing wood, which consists in conducting the same into, and consuming them in an independent furnace, and conveying the heated products of combustion thence into and through a kiln for carbonizing the wood therein. 2nd. The method of utilizing the uncondensed gases developed in carbonizing wood, which consists in passing the vapours and gases from a kiln through a condenser to eliminate the condensable matters, conducting the uncondensed gases from the condenser into, and consuming them in an independent furnace, and conveying the heated products of combustion thence into and through a kiln, for carbonizing the wood therein. 3rd. A charcoal kiln or carbonizing chamber provided with perforated partition walls arranged at the ends thereof, and with the channelled floor. 4th. The combination, with a closed charcoal kiln, of a weighted or automatic vent valve or valves, a valved eduction pipe, an induction pipe and an interposed fan. 5th. The combination of the kiln A, provided with perforated partition walls a² a₃, and automatic vent valves f¹, the valved eduction pipe g, condenser H, fan I, independent furnace or combustion chamber K and induction pipe l.

No. 14,306. Improvements on Seed Planters. (*Perfectionnements aux semailles.*)

William Nevins, Titusville, Penn., U.S., 28th February, 1882; (Extension of Patent No. 7151.)

No. 14,307. Improvements on Watch Cases. (*Perfectionnements aux boîtes des montres.*)

Edwin H. Arms and Robert J. Quigley, Toronto, Ont., 28th February, 1882; for 5 years.

Claim.—1st. The combination of a spindle or sleeve screwed into, or otherwise secured to the centre, and forming a bearing upon which the pendent is pivotally held. 2nd. In a watch case having its lids fastened to the centre by the snap only, the combination of a pendent pivotally held in a bearing formed on a sleeve screwed into the centre, or a ring within the centre, and provided with a cam or projection arranged for the purpose of opening the lids. 3rd. The combination of a pendent pivotally held on a sleeve or spindle screwed into, or otherwise secured to the centre without solder, and provided with a cam or projection arranged for the purpose of opening the lids. 4th. In a watch case in which the lids are fitted to the centre without hinges and held thereon by the snap only, the combination of a pendent pivotally held in a bearing formed on a sleeve, secured to the centre and provided with a hub having a cam or projection on one side of it, and fitting into a recess made in the centre between the lids

INDEX OF INVENTIONS.

Amalgamating apparatus, C. Taylor..... 14,251
 Animals to loads, manner of attaching, H. McNally.... 14,299
 Apple slicers, A. J. Rice 14,141
 Attaching animals to loads, H. McNally..... 14,299
 Backs, stove, W. Schenck..... 14,279
 Bag machines, paper, W. C. Cross..... 14,204, 14,205
 Bagging machines, V. Arnold et al..... 14,285
 Bands, hub, W. I Atwood..... 14,140
 Bearings, anti-frictional, T. R. Ferral..... 14,301
 Belt splice, T. Clohecy..... 14,282
 Benches and wringers, I. R. Laux et al..... 14,149
 Binders, grain, S. Johnson..... 14,192
 Blankets, bed, C. D. Murdock et al..... 14,272
 Blinds, window, A. Delone..... 14,286
 Boards, stove, R. M. Bidelman et al..... 14,273
 Bobbin winders, C. B. Thompson..... 14,187
 Boiler cleaning, Sir M. Parker..... 14,217
 Boilers, cooking, W. Castle..... 14,302
 " steam, H. Kolker..... 14,121
 " wash, J. Roberts..... 14,292
 Books, cheque, J. R. Carter..... 14,182
 Books, T. T. Marshall..... 14,186
 Boots and shoes, J. W. Coperland..... 14,218
 " O. E. Lewis..... 14,211
 Borers, hub, E. Caswell..... 14,275
 Boxes, ammunition, E. G. Parkhurst..... 14,195
 " service, R. Mitchell..... 14,146
 Bricks, manufacture of, L. Promoti et al..... 14,260
 Brush machines, J. H. Dodds..... 14,263
 Buffing machines, G. H. P. Flagg..... 14,213
 Buggy tops, T. Smith..... 14,278
 Buildings, fabrics for, J. S. Brooks..... 14,300
 Buoy, signal, F. Barr..... 14,262
 Cans, milk, A. Huff..... 14,161
 Caoutchouc treating, H. Kurth et al..... 14,237
 Carriages, G. R. McCrea..... 14,261
 Cars, railway, T. L. Wilson et al..... 14,232
 Cases, watch, R. J. Quigley..... 14,307
 " writing, S. Wheeler..... 14,227
 Chairs, C. H. Gilpin..... 14,135
 " barber and dental, G. W. Archer..... 14,126
 " rail, W. A. Cooper..... 14,173
 " rocking, E. Kriehoff et al..... 14,240
 " tilting, J. W. Kenna..... 14,280
 Charcoal, manufacture of, H. M. Pierce..... 14,305
 Clamps, wood working, A. M. Colt..... 14,284
 Cleaning compound, Sir M. Parker..... 14,217
 Collars and cuffs, F. B. Ide et al..... 14,148
 " horse, G. W. Daly et al..... 14,295
 " horse, J. Whitney..... 14,153
 Comforts, bed, C. D. Murdock et al..... 14,292
 Cooking boilers, W. Castle..... 14,302
 " stoves, E. Peerless..... 14,199
 " The American Stove Mfg Co'y..... 14,245
 Compressing and cooling machines, air, J. P. and O. G. Burnham..... 14,232
 Cotton twisting machines, A. Yates..... 14,138
 Couplings, car, D. P. Prescott..... 14,120
 " F. Tarble..... 14,256
 " J. A. Burns et al..... 14,287
 " W. V. Perry..... 14,175
 Creamers, W. E. Parmenter..... 14,196
 Cuffs and collars, F. B. Ide et al..... 14,148
 Cutting machines, veneer, H. S. Smith et al..... 14,177
 Desiccating eggs, L. J. Caldwell..... 14,183
 Digger, hole, W. H. Rhodes..... 14,145
 Distilling apparatus, T. A. and W. T. Jebb..... 14,297
 Distributing apparatus, W. Hadden..... 14,152
 Distributors, fertilizer, J. M. Westcott..... 14,296
 " S. B. Hart..... 14,181
 Door hangers, W. F. Berry..... 14,226
 " securers, J. Lockwood..... 14,257
 Doubling machines, cotton, A. Yates..... 14,138
 Dressing machines, millstone, D. Vaughan..... 14,201
 Egg desiccating, L. J. Caldwell..... 14,183
 Egg preservers, D. Smith..... 14,193
 Electric machines, dynamo, T. L. Wilson..... 14,235
 " wires, H. A. Clark..... 14,258
 Elevating machines, V. Arnold et al..... 14,286
 Engines, doctor, G. J. Fritz..... 14,292
 " steam, W. J. Boland..... 14,236
 Evaporators, fruit, M. Hill..... 14,229
 Explosive compound, E. Judson..... 14,125
 Extinguishing fires in kilns, A. M. Pierce..... 14,304
 Fabrics, fire-proof, J. S. Brooks..... 14,300
 " ornamental, W. H. B. Toye..... 14,158

Fastener, belt, T. Clohecy..... 14,282
 " glove, E. Horsepool..... 14,139
 " window light, T. Tanner..... 14,144
 Fastenings, ship, H. Squier..... 14,170
 Fats, treatment of, W. Green..... 14,150
 Feather renovators, E. B. Dufort et al..... 14,119
 Feeding device, stock, A. D. Tingley..... 14,267
 Fences, J. M. Rowe..... 14,234
 " metallic, J. F. Walmsley..... 14,172
 " metallic, T. C. Hewitt..... 14,188
 " tags for, J. J. Lafleur et al..... 14,271
 Fertilizer distributors, J. M. Westcott..... 14,296
 " S. B. Hart..... 14,181
 Files, sharpening, M. A. Richardson..... 14,178, 14,179
 Fire escape ladders, O. Sherwood..... 14,250
 Fires in kilns, extinguishing, H. M. Pierce..... 14,304
 Foot and leg protectors, W. Beattie..... 14,198
 Forks, horse, J. H. Lux..... 14,228
 Frames, photograph, J. Dewe..... 14,264
 Frogs, railway, J. S. Trites..... 14,230
 Furnaces, boiler, O. D. Orvis..... 14,252
 " oven, E. A. Cullerton..... 14,253
 Garments, sample, H. Leiser..... 14,288
 Glass ornamenting, J. Budd..... 14,294
 Gloves and mitts, E. J. Ewens..... 14,197
 Gold amalgamating, C. Taylor..... 14,251
 Graders and separators, H. P. Edmunds..... 14,203
 Grain binders, S. Johnston..... 14,192
 " separators, H. P. Edmunds..... 14,203
 Grates for furnaces, H. and J. H. Rogers..... 14,219, 14,220
 Hangers, door, W. F. Berry..... 14,228
 Harrows, W. J. Lane..... 14,130
 " iron, J. Maunder..... 14,184
 " sulky, C. La Dow..... 14,208
 " wheel, F. Bramer..... 14,169
 Harvesters, J. P. Manny..... 14,242, 14,243, 14,244
 " machines, J. Watson..... 14,157
 " W. Dering..... 14,174
 Heating and ventilating, L. A. Spaulding..... 14,206
 Holder and ruler, head line, E. W. Blackhall..... 14,291
 Horse shoes, G. K. Flower..... 14,200
 Hub bands, W. I. Atwood..... 14,140
 Ice tools, J. R. Fisher et al..... 14,239
 Incrustations, removal of, H. Kolker..... 14,121
 India rubber, H. A. Clark..... 14,259
 Kettles, tea, H. L. Palmer..... 14,281
 Kilns, extinguishing fires in, H. M. Pierce..... 14,304
 Knobs, door, G. Price..... 14,214
 Ladders, fire escape, O. Sherwood..... 14,250
 Lamps, electric, E. M. Fox..... 14,225
 " T. L. Willson..... 14,180
 Lasting machines, G. W. Copeland..... 14,218
 Lathes, S. Welte..... 14,154
 Leg and foot protectors, W. Beattie..... 14,198
 Lubricators, E. McCoy..... 14,270
 " G. F. Godley..... 14,290
 Medicinal compound, T. C. Fields..... 14,215
 Microphones, The Canadian Telephone Co'y..... 14,164, 14,165
 Mills, fanning, H. Keller..... 14,129
 " wind, L. Carrier..... 14,298
 Millstone dressing machines, D. Vaughan..... 14,201
 Mitts and gloves, E. J. Ewens..... 14,197
 Motors, A. and A. Iske..... 14,289
 Mowing machines, C. W. Levalley..... 14,222
 Nut locks, A. F. McDonald..... 14,254
 Oils, treatment of, W. Green..... 14,150
 Organs and pianos, C. M. Andrews..... 14,131
 Ornamenting glass, J. Budd..... 14,284
 Ozone machines, H. Milson..... 14,147
 Paint, roof, S. Phelps..... 14,231
 Petroleum products, apparatus for separating, J. Cole..... 14,122, 14,124
 Photographs, mode of exhibiting, J. Dewe..... 14,264
 Planos and organs, C. N. Andrews..... 14,131
 " upright, C. E. and W. Bourne..... 14,212, 14,247
 Pipes, compound for sewer, D. H. Dorset..... 14,128
 " metallic, D. A. Ritchie..... 14,160
 Planters, seed, W. Nevins..... 14,306
 Plough, snow, J. Wood..... 14,268
 Points, railway, H. Whitehead et al..... 14,143
 Polishing machines, G. H. P. Flagg..... 14,213
 Preservers, egg, D. Smith..... 14,193
 Printing machines, plate, H. Lee..... 14,176
 Protectors, leg and foot, W. Beattie..... 14,198
 Pulp manufacturing, M. V. Eichelberger..... 14,265
 Pumps, chain, M. D. Temple..... 14,224
 Railway points, H. Whitehead et al..... 14,143
 Rakes, horse, J. Watson..... 14,241

| | | | |
|--|--------------------------------|---|------------------------|
| Refrigerators, J. T. Gurney et al..... | 14,248 | Aroher, G. W., barber and dental chair..... | 14,126 |
| “ waggons, J. T. Gurney et al..... | 14,249 | Arms, E. H., et al., watch cases..... | 14,307 |
| Renovators, feather, E. B. Dufort et al..... | 14,119 | Arnold, J. D., et al., oil tanks..... | 14,194 |
| Reversing mechanism, V. W. Mason..... | 14,269 | “ V., et al., grain separators..... | 14,285 |
| Rugs, bed, C. D. Murdock et al..... | 14,272 | “ W. E., cooking boilers..... | 14,302 |
| Ruler and holder, head line, E. W. Blackhall..... | 14,291 | Atwood, W. I., hub bands..... | 14,140 |
| Saddle trees, W. H. and S. Taylor..... | 14,159 | Badger, O. W., wheel harrows..... | 14,168 |
| Sample, garment, H. Leiser..... | 14,288 | Bare, W. and M., et al., ice tools..... | 14,189 |
| Saws, circular, F. Genin..... | 14,155 | Barnes, J. B., et al., railway spikes..... | 14,239 |
| “ cross cut, J. C. Dietrich..... | 14,171 | Barr, F., signal buoys..... | 14,255 |
| Seats, vehicle, F. Oppenheim..... | 14,283 | Bartlett, H. R., et al., fire escape ladders..... | 14,262 |
| Securers, door, J. Lockwood..... | 14,257 | Beach, G. E., water works..... | 14,250 |
| Seed planters, W. Nevins..... | 14,306 | Beall, C., extension tables..... | 14,268 |
| Seeding machines, J. M. Westcott..... | 14,221 | Beattie, W., leg and foot protectors..... | 14,156 |
| Separators and thrashers, The McDonald Mnf'g Co'y..... | 14,246 | Berry, W. F., door hangers..... | 14,198 |
| “ grain, H. P. Edmunds..... | 14,203 | Bidelman, R. M., et al., stove boards..... | 14,226 |
| “ “ V. Arnold et al..... | 14,235 | Bismann, J., extension tables..... | 14,273 |
| Setters, box, E. Caswell..... | 14,275 | Blackhall, E. W., head line ruler and holder..... | 14,156 |
| Sewing machines, C. R. Thompson..... | 14,187 | Boland, W. J., et al., steam engines..... | 14,291 |
| “ “ T. Clohecy..... | 14,282 | Bourne, C. E. and W., upright pianos..... | 14,236 |
| “ “ T. Stevens..... | 14,134 | Bramer, F., wheel harrows..... | 14,247 |
| “ “ broom, G. F. McCombs et al..... | 14,303 | Brock, M., et al., boots and shoes..... | 14,169 |
| Sharpening files, M. A. Richardson..... | 14,178 | Brooks, J. S., fire-proof fabrics..... | 14,218 |
| Shingle machines, W. J. Perkins..... | 14,118 | Burnham, J. P. and O. G., air cooling and compressing machines..... | 14,300 |
| Ships, air, C. W. Peterson..... | 14,216 | Burns, J. A., et al., car couplings..... | 14,282 |
| “ fastenings, H. Squier..... | 14,167 | Byrnes, M., et al., steam engines..... | 14,287 |
| Signal buoys, F. Barr..... | 14,262 | Caldwell, L. J., desiccating eggs..... | 14,238 |
| Slabs, bricks and stones, L. Promoti et al..... | 14,260 | Canadian Telephone Co'y, The, microphones..... | 14,165 |
| Sleds, J. T. Gurney et al..... | 14,223 | “ “ telephones..... | 14,194 |
| Siloers, apple, A. J. Rice..... | 14,141 | “ “ “..... | 14,209 |
| Soap, manufacture of, W. Green..... | 14,150 | Carrier, L., wind mills..... | 14,298 |
| Sofas, R. W. Anderson..... | 14,207 | Carter, J. R., cheque books..... | 14,182 |
| Spikes, railway, J. B. Barns et al..... | 14,255 | Castle, W., cooking boilers..... | 14,302 |
| Splice, belt, T. Clohecy..... | 14,282 | Caswell, E., hub borers..... | 14,275 |
| Springs, elliptic, E. Cliff et al..... | 14,117 | Cawood, J., et al., grain separators..... | 14,285 |
| Squares, R. Low..... | 13,142 | Chase, L. L., car couplings..... | 14,256 |
| Stock feeding device, A. D. Tingley..... | 14,267 | Clark, B. S., et al., elliptic springs..... | 14,117 |
| Stones, paving, L. Promoti et al..... | 14,260 | “ H. A., electric wires..... | 14,258 |
| Stoppers, can, W. H. Rodden..... | 14,127 | “ “ india rubber..... | 14,259 |
| Stove backs, W. Schenck..... | 14,279 | Cliff, E., et al., elliptic springs..... | 14,117 |
| “ boards, R. M. Bidelman et al..... | 14,273 | Clohecy, T., belt fasteners..... | 14,282 |
| Stoves, J. D. Pierce..... | 14,202 | Cole, J., apparatus for separating petroleum products..... | 14,122 |
| “ cooking, D. Peerless..... | 14,199 | Collier, F. K., et al., tire upsetters..... | 14,276 |
| “ “ The American Stove Mnf'g Co'y..... | 14,245 | Colt, A. M., wood working clamps..... | 14,284 |
| Tables, extension, C. Beall..... | 14,156 | Cooper, W. A., rail chairs..... | 14,173 |
| “ writing, J. H. Hodder..... | 14,137 | Copeland, G. W., boots and shoes..... | 14,218 |
| Tacking machines, G. W. Copeland..... | 14,218 | Cowley, C. R., water wheels..... | 14,132 |
| Tags for fences, J. J. Lafleur et al..... | 14,271 | Crisp, J. E., et al., boots and shoes..... | 14,218 |
| Tanks, oil, J. D. Arnold et al..... | 14,194 | Cross, W. E., paper bag machines..... | 14,205 |
| Tanning machinery, J. W. Janson..... | 14,136 | Cullerton, E. A., oven furnaces..... | 14,253 |
| Telegraph receiving apparatus, J. W. Fuller..... | 14,133 | Culver, D. E., et al., car couplings..... | 14,267 |
| Telephones, E. T. Gilliland..... | 14,151 | Daly, G. W., et al., horse collars..... | 14,295 |
| Telephones, The Canadian Telephone Co'y..... | 14,190, 14,191, 14,209, 14,210 | Davis, E. H., et al., railway cars..... | 14,232 |
| Thrashers and separators, The McDonald Mnf'g Co'y..... | 14,246 | Deering, W., harvesting machines..... | 14,174 |
| Ties, bale, E. S. Lenox..... | 14,163 | Delowe, A., window blinds..... | 14,286 |
| Tire shrinkers, F. K. Collier et al..... | 14,276 | Dewe, J., mode of exhibiting photographs..... | 14,264 |
| Tools, ice, J. B. Fisher et al..... | 14,239 | Dietrich, J. C., cross-cut saws..... | 14,171 |
| Tops, buggy, T. Smith..... | 14,278 | Dodd, T., et al., railway points..... | 14,148 |
| “ carriage, W. Hodge..... | 14,185 | Dodds, J. H., brush machines..... | 14,263 |
| Trees, saddle, W. H. and S. Taylor..... | 14,159 | Dorset, D. H., compound for sewer pipes..... | 14,119 |
| Twisting machines, cotton, A. Yates..... | 14,138 | Dufort, E. B., et al., feather renovator..... | 14,119 |
| Upsetters, tire, F. K. Collier et al..... | 14,276 | Eddridge, H., et al., “..... | 14,210 |
| Vehicle seats, F. Oppenheim..... | 14,283 | Edison, T. A., telephones..... | 14,190, 14,191, 14,209 |
| Veneer cutting machines, H. S. Smith et al..... | 14,177 | Edmunds, H. P., graders and separators..... | 14,203 |
| Ventilating and heating, L. A. Spaulding..... | 14,206 | Eggert, L. P., washing machines..... | 14,238 |
| Waggons, refrigerator, J. T. Gurney et al..... | 14,249 | Eichelberger, M. V., pulp manufacturing..... | 14,265 |
| Wash boilers, J. Roberts..... | 14,292 | Ewens, E. J., gloves and mitts..... | 14,197 |
| Washing machines, L. C. Eggert..... | 14,238 | Ferrall, T. R., anti-frictional bearings..... | 14,301 |
| Watch cases, R. J. Quigley..... | 14,307 | Fields, T. C., medicinal compound..... | 14,215 |
| Water works, G. E. Beach..... | 14,266 | Fischer, J. B., et al., ice tools..... | 14,239 |
| Watering device, stock, A. D. Tingley..... | 14,267 | Flagg, G. H. P., polishing machines..... | 14,213 |
| Weighing machines, V. Arnold et al..... | 14,285 | Flower, G. K., horse shoes..... | 14,200 |
| Wheels, carriage, O. C. Ross..... | 14,277 | Fox, E. M., electric lamps..... | 14,225 |
| “ water, C. R. Cowley..... | 14,132 | Fritz, G. J., doctor engines..... | 14,292 |
| Winders, bobbin, C. B. Thompson..... | 14,187 | Fuller, J. W., telegraph receiving apparatus..... | 14,133 |
| Window light fasteners, T. Tanner..... | 14,144 | Genin, F., circular saws..... | 14,155 |
| “ locomotive, J. M. Taylor..... | 14,274 | Gilliland, E. T., telephones..... | 14,151 |
| Wires, electric, H. A. Clark..... | 14,258 | Gilpin, C. H., chairs..... | 14,185 |
| Wringers and benches, I. A. Laux et al..... | 14,149 | Godley, G. F., lubricators..... | 14,290 |
| Writing cases, S. Wheeler..... | 14,227 | Green, W., manufacture of soap..... | 14,150 |
| | | Gunsauls, P., et al., benches and wringers..... | 14,149 |
| | | Gurney, J. T., et al., sleds..... | 14,223 |
| | | “ J. T., et al., refrigerators..... | 14,248 |
| | | “ “ refrigerator waggons..... | 14,249 |
| | | Hadden, W., distributing apparatus..... | 14,152 |
| | | Hardgrave, H., thrashers and separators..... | 14,246 |

INDEX OF PATENTEES.

| | |
|---|--------|
| American, The Stove Mnf'g Co'y, cooking stoves..... | 14,245 |
| Anderson, R. W., sofas..... | 14,207 |
| Andrews, C. N., pianos and organs..... | 14,131 |

| | | | |
|--|--------|--|--------|
| Hart, S. B., fertilizer distributors..... | 14,181 | Peterson, C. W., air ships..... | 14,216 |
| Hewitt, T. C., metallic fences..... 14,188 | 14,189 | Phelps, S., roof paint..... | 14,231 |
| Hill, M., fruit evaporators..... | 14,229 | Pierce, H. M., extinguishing fires in kilns..... | 14,304 |
| Hodder, J. H., writing tablets..... | 14,137 | " " manufacture of charcoal..... | 14,305 |
| Hodge, W., carriage tops..... | 14,185 | " J. D., stoves..... | 14,202 |
| Horsepool, E., glove fasteners..... | 14,139 | Pinney, E. D., et al., horse collars..... | 14,295 |
| Huebner, S., et al., bricks, slabs and stones..... | 14,260 | Prescott, D. P., car couplings..... | 14,120 |
| Huff, A., milk cans..... | 14,161 | Price, G., door knobs..... | 14,214 |
| Ide, F. B., et al., collars and cuffs..... | 14,148 | Promoti, L., et al., bricks, slabs and stones..... | 14,260 |
| Iake, A. and A., motors..... | 14,289 | Quesnel, E. A., et al., cooking stoves..... | 14,245 |
| Janson, J. W., tanning machinery..... | 14,136 | Quigley, R. J., et al., watch cases..... | 14,307 |
| Jebb, T. A. and W. T., distilling apparatus..... | 14,297 | Rhodes, W. H., hole digger..... | 14,145 |
| Johnston, S. grain binders..... | 14,192 | Rice, A. J., apple slicers..... | 14,141 |
| Judson, E., explosive compound..... 14,123 | 14,125 | Richardson, M. A., sharpening files..... 14,178 | 14,179 |
| Kains, W. K., et al., rocking chairs..... | 14,240 | Ritchie, D. A., metallic pipes..... | 14,160 |
| Keller, H., fanning mills..... | 14,129 | Roberts, J., wash boilers..... | 14,292 |
| Kenna, J. W., tilting chairs..... | 14,280 | Rodden, W. H., car stoppers..... | 14,127 |
| Kolker, H., removal of incrustations..... | 14,121 | Rogers, C., et al., broom sewing machines..... | 14,303 |
| Krieghoff, E., et al., rocking chairs..... | 14,240 | " H. and J. H., gates for furnaces..... 14,219 | 14,220 |
| Kurth, H., et al., treating caoutchouc..... | 14,237 | Ross, O. C., carriage wheels..... | 14,277 |
| LaDow, C., sulkey harrows..... | 14,208 | Rowe, J. M., fences..... | 14,234 |
| LaFleur, J. J., tags for fences..... | 14,271 | Schenck, W., stove backs..... | 14,279 |
| Lane, W. J., harrows..... | 14,130 | Sherwood, O., fire escape ladders..... | 14,250 |
| Langille, J. L., et al., tags for barbed fences..... | 14,271 | Shipman, H. W., et al., veneer cutting machines..... | 14,177 |
| Lansing, L. D., et al., tire upsetters..... | 14,276 | Sims, A. H., et al., collars and cuffs..... | 14,148 |
| Laux, I. R., et al., benches and wringers..... | 14,149 | Smith, D., egg preservers..... | 14,193 |
| Lee, H., plate printing machine..... | 14,176 | " H. S., et al., veneer cutting machines..... | 14,177 |
| Leiser, H., garment samples..... | 14,288 | " T., buggy tops..... | 14,278 |
| Lenox, E. S., bale ties..... 14,162 | 14,163 | Southworth, W. H., et al., oil tanks..... | 14,194 |
| Lewis, O. E., boots and shoes..... | 14,211 | Spaulding, L. A., heating and ventilating..... | 14,206 |
| Levalley, C. W., mowing machines..... | 14,222 | Squier, H., ship fastenings..... 14,167 | 14,170 |
| Lincoln, E., et al., railway spikes..... | 14,255 | Stevens, T., sewing machines..... | 14,184 |
| Little, S., et al., refrigerator waggons..... | 14,249 | Stewart, J. F., harvesting machines..... | 14,174 |
| " " refrigerators..... | 14,248 | Tanner, T., window light fasteners..... | 14,144 |
| Lockwood, J., door securers..... | 14,257 | Tarble, F., car couplings..... | 14,256 |
| Lovejoy, A. J., et al., tire upsetters..... | 14,276 | Taylor, C., gold amalgamating..... | 14,251 |
| Low, L., squares..... | 14,142 | " J. M., locomotive windows..... | 14,274 |
| Lux, J. H., horse forks..... | 14,228 | " W. H. and S., saddle trees..... | 14,159 |
| Macdonald, A. F., nut locks..... | 14,254 | Temple, M. D., chain pumps..... | 14,224 |
| Manny, J. P., harvesters..... 14,242 14,243 | 14,244 | Thompson, C. B., sewing machines..... | 14,187 |
| Maunders, J., iron harrows..... | 14,184 | " R. H., et al., treating caoutchouc..... | 14,237 |
| Marshall, T. T., boots..... | 14,186 | Tingley, A. D., stock feeding device..... | 14,267 |
| Mason, V. W., reversing mechanism..... | 14,269 | Toye, W. H. R., ornamental fabrics..... | 14,158 |
| Mathias, D., bale ties..... 14,162 | 14,163 | Trites, J. S., railway frogs..... | 14,230 |
| McCombs, G. F., et al., broom sewing machines..... | 14,303 | Vaughan, D., millstone dressing machines..... | 14,200 |
| McCoy, E., lubricators..... | 14,270 | Vining, W. N., et al., cooking stoves..... | 14,245 |
| McCrea, G. R., carriages..... | 14,261 | Walmaley, J. F., metallic fences..... | 14,172 |
| McDonald, The Mnf'g Co'y, thrashers and separators.. | 14,246 | Watson, J., harvesting machines..... | 14,157 |
| McLeod, J. E., et al., rail chairs..... | 14,173 | " horse rakes..... | 14,241 |
| McNally, H., manner of attaching animals to loads.. | 14,299 | Webster, O., et al., stove boards..... | 14,273 |
| Milsons, H., ozone machines..... | 14,147 | Welte, S., lathes..... | 14,154 |
| Mitchell, R., service boxes..... | 14,146 | Westcott, J. M., fertilizer distributor..... | 14,296 |
| Murdock, C. D., et al., bed comforts..... | 14,272 | " seeding machines..... | 14,221 |
| Negley, J. S., et al., car couplings..... | 14,287 | Wheeler, S., writing cases..... | 14,227 |
| Nevins, W., seed planters..... | 14,306 | Whitehead, H., et al., railway points..... | 14,143 |
| Onohendro, L. J., et al., bed comforts..... | 14,272 | Whitney, J., horse collars..... | 14,153 |
| Oppenheim, F., vehicle seats..... | 14,283 | Williams, C., jr., microphones..... 14,164 | 14,165 |
| Orvis, O. D., boiler furnaces..... | 14,252 | Wilson, A. J., horse rakes..... | 14,241 |
| Palmer, H. S., tea kettles..... | 14,281 | " T. L., electric lamps..... | 14,180 |
| Parmenter, W. E., creamers..... | 14,196 | " " dynamo electric machines..... | 14,235 |
| Parker, Sir M., boiler cleaning..... | 14,217 | " " et al., railway cars..... | 14,232 |
| Parkhurst, E. G., ammunition boxes..... | 14,195 | " W. S., harvesting machines..... | 14,157 |
| Peerless, E. cooking stoves..... | 14,199 | Wood, J., snow ploughs..... | 14,268 |
| Perkins, W. J., shingle machines..... | 14,118 | Woodward, E., et al., boots and shoes..... | 14,218 |
| Perry, W. P., car couplings..... | 14,175 | Yates, A., cotton twisting machines..... | 14,138 |

Patents issued up to 15th April, 1882, Claims and Drawings of which will appear in a subsequent number of the Patent Record.

- No. 14,410. R. R. Osgood, Troy, and J. MacNaughton, Albany, N. Y. Assignees, "Dredging and Derrick Machines." (Extension of Patent No. 7701.) 14th March, 1882.
- No. 14,411. R. R. Osgood, Troy, and J. MacNaughton, Albany, N. Y. Assignees, "Dredging and Derrick Machines." (Extension of Patent No. 7701.) 14th March, 1882.
- No. 14,412. E. Luck, Blackfriars Road, Eng.. "Acetifying and Maturing Apparatus." 15th March, 1882.
- No. 14,413. W. F. Reid, Stowmarket, and D. Johnson, Chester, Eng., "Explosives." 16th March, 1882.
- No. 14,414. J. Clark, Pontiac, Mich., "Apple Parer," 15th March, 1882.
- No. 14,415. T. McDonald, Austin, Texas, "Pocket Hanger for Hats and Coats," 15th March, 1882.
- No. 14,416. J. A. Lakin, Westfield, Mass., "Telephone." 15th March, 1882.
- No. 14,417. J. R. Alexander, Montreal, Que., "Electro Galvano Magnetic Truss or Support," (Extension of Patent No. 7259.) 15th March, 1882.
- No. 14,418. J. R. Alexander, Montreal, Que., "Electro Galvano Magnetic Truss or Support," (Extension of Patent No. 7259.) 16th March, 1882.
- No. 14,419. M. R. Thurber, Scranton, Penn., "Car Coupling," 16th March, 1882.
- No. 14,420. S. G. Searight, Butter, Ind., "Reverting Damper for Stove Pipes and Drums," 16th March, 1882.
- No. 14,421. B. Peterson and L. C. Nielson, Roeskielde, Denmark, "Centrifugal Machines," 16th March, 1882.
- No. 14,422. O. S. Garretson, Buffalo, N. Y., "Furniture," 16th March, 1882.
- No. 14,423. J. Flannery, Philadelphia, Penn., "Hydro-Carbon Gas Generator," 16th March, 1882.
- No. 14,424. M. Thompson, Brooklyn, N. Y., "Duplex Lever Capsule," 16th March, 1882.
- No. 14,425. J. C. Gunn, Knoxville, Tenn., "Evaporators," 16th March, 1882.
- No. 14,426. O. P. Clayton, Holly Springs Georgia "Tuyere." 16th March, 1882.
- No. 14,327. M. Souville, Montreal, Que., "Spirometer," 16th March, 1882.
- No. 14,428. H. Cairns, Petrolia, Ont., "Swivel Clamp," 16th March, 1882.
- No. 14,429. T. B. Townsend, Ottawa, Ont., "Hanging Lock Gates," (Extension of Patent No. 2255.) 17th March, 1882.
- No. 14,430. E. Luck, Stamford Street, Blackfriars Road, Eng., "Apparatus for Gelatinizing Grain," 17th March, 1882.
- No. 14,431. J. Scott, Batte Creek, Mich., "Steam Engine Valve," 17th March, 1882.
- No. 14,432. G. Doolittle, Bridgeport, Conn., "Sewing Machine Attachment," 17th March, 1882.
- No. 14,433. C. Parish, Philadelphia, Penn., "Effervescing Phosphated Iron Tonic Beverage," 17th March, 1882.
- No. 14,434. G. F. Clothier and J. Galligan, Kalamazoo, Mich., "Seamless Back Overalls," 17th March, 1882.
- No. 14,435. H. C. F. Stormer, Christiania, Norway, "Apparatus for Drying and Distilling Spent Dye Wood and Saw Dust, etc.," 17th March, 1882.
- No. 14,436. T. T. Leacox, Imogene, Iowa, "Motor," 17th March, 1882.
- No. 14,437. The Society for the Manufacture of Wood Pulp Grelinger, Switzerland, Assignees "Fibre Treating Process," 18th March, 1882.
- No. 14,438. B. E. Charlton, Hamilton, Ont., "Vinegar Process," 18th March, 1882.
- No. 14,439. R. S. Nibbermarle, Ont., "Steam Washing Machine," 18th March, 1882.
- No. 14,440. L. Guinnip, Chicago, Ill., "Wooden Horse Collar," 18th March, 1882.
- No. 14,441. J. T. Gurney, Boston, Mass., "Carriage," 18th March, 1882.
- No. 14,442. F. S. Barff, Abbey Road, Kilburn, Eng., "Steel Surfaces," 18th March, 1882.
- No. 14,443. I. Corman, Lowell, Mich., Assignee. "Fence." 18th March, 1882.
- No. 14,444. T. H. Davies, Fairview, N. Y., "Improved Harrow," 18th March, 1882.
- No. 14,445. E. Miller, Fredericton, N. B., "Adjustable Rail for Canopy Top Buggies," (Extension of Patent No. 7274.) 18th March, 1882.
- No. 14,446. E. B. Davey, Toronto, Ont., "Grease Extract Process," 18th March, 1882.
- No. 14,447. E. Flohr, Canisteo, N. Y., "Tan Fat and Stirrer," 18th March, 1882.
- No. 14,448. M. E. Colver, Simcoe, Ont., "Force Pumps," 18th March, 1882.
- No. 14,449. W. H. Parsons, Montreal, Que., "Pottery Moulding Machines," 18th March, 1881.
- No. 14,450. E. H. Crandell, Brampton, Ont., "Paper Safe for the Counter," 18th March, 1882.
- No. 14,451. W. F. Moulton, Burlington, Vermont. "Eave Trough and Conductor," (Extension of Patent No. 7055.) 18th March, 1882.
- No. 14,452. A. Campbell, Woodville, Ont., "Harrow," 21st March, 1882.
- No. 14,453. J. L. Clark and J. Standfield, Westminster Chambers, Eng., "Floating Dock." (Extension of Patent No. 4840.) 21st March, 1882.
- No. 14,454. Canadian Telephone Company, Montreal, Que., Assignees, "Microphonic Telephone, 21st March, 1882.
- No. 14,455. J. B. Bowes, Pinkerton, Ont., "Artificial Hand," 21st March, 1882.
- No. 14,456. J. Olmstead, Montreal, Que., "Electric Lamp," 21st March, 1882.
- No. 14,457. T. A. Readwin, Bloomsbury Square, Middlesex, Eng., "Appalgumating Apparatus," 21st March, 1882.
- No. 14,458. W. M. Thomas and S. W. Skinner, Cincinnati, Ohio, "Electric light" 21st March, 1882.
- No. 14,459. F. V. Phillips, Chicago, Ill., "Transon Pivot," 21st March, 1882.
- No. 14,460. W. H. Paige, Springfield, Mass., "Lock Nut," 21st March, 1882.
- No. 14,461. W. Esty, Laconia, N. H., "Seamless Heel and Toe Stocking," 22nd March, 1882.
- No. 14,462. L. C. Rodier, Detroit, Mich., "Steam Radiator," 22nd March, 1882.
- No. 14,463. T. L. Kay, Hamilton, Ont., "Electric Lamp," 22nd March, 1882.
- No. 14,464. P. T. Gates, New York, N. Y., "Duplex Wash Board," 22nd March, 1882.
- No. 14,465. J. A. Fleming, Nottingham, Eng., "Electric Insulation," 22nd March, 1882.
- No. 14,466. J. A. Fleming, Nottingham, Eng., "Electric Insulation," 22nd March, 1882.
- No. 14,467. J. H. Hatton, Fort Convington, N. Y., "Life Boat," (Extension of Patent No. 7296.) 22nd March, 1882.
- No. 14,468. J. Watson, Ayer, Ont., Assignee, "Harvesting Machines," (Extension of Patent No. 1447.) 22nd March, 1882.
- No. 14,469. J. Watson, Ayer, Ont., Assignees, "Harvesting Machines," (Extension of Patent.) 22nd March, 1882.
- No. 14,470. W. J. Guard, Sarnia, Ont., "Sliding Bucket Motor," 23rd March, 1882.
- No. 14,471. J. Esch, Milwaukee, Wis., "Truck," 23rd March, 1882.
- No. 14,472. L. B. Stowell, Friendship Village, Wis., "Halter," 23rd March, 1882.
- No. 14,473. J. J. Williams, Fairhaven, V. T., "Flat Roof Tiling," 23rd March, 1882.
- No. 14,474. F. R. Grout, Chicago, Ill., "Paint Tube or Can," 23rd March, 1882.
- No. 14,475. M. R. Hubbell, Wolcott, V. T., "Car Coupling," 23rd March, 1882.
- No. 14,476. E. B. McIntosh, Brooklyn, N. Y., "Glass Pipe Machine," 23rd March, 1882.
- No. 14,477. A. G. Cole, Ottawa, Ont., "Camp Furniture Folding Joint," 23rd March, 1882.
- No. 14,478. S. A. Bailey, New York, N. Y., "Side Bar Cross Spring," 23rd March, 1882.
- No. 14,479. E. A. Mallory and C. H. Mallory, Danbury, Conn., "Hat Scalding Machine," 24th March, 1882.
- No. 14,480. G. F. Tilley, St. Louis, Miss., "Stove and Range Oven," 24th March, 1882.
- No. 14,481. T. P. Draughtsman and A. H. Lee, Scranton, Penn., "Balance Slide Valve," 24th March, 1882.
- No. 14,482. A. F. Martel, Montreal, Que., "Car Brake," 24th March, 1882.
- No. 14,483. Whitely, Tassler and Kelly, Springfield, Ohio, Assignees "Harvesting and Binding Machinery," 24th March, 1882.
- No. 14,484. R. L. Walker, Boston, Mass., "Twin Furnace," (Extension of Patent No. 7278.) 24th March, 1882.
- No. 14,485. C. E. Kendall, Buffalo, N. Y., "Railway Brake," 24th March, 1882.
- No. 14,486. F. Riker and H. Dennis, Berger Point, N. J., "Packings for Axles and Bearings," 24th March, 1882.
- No. 14,487. H. C. Szink, Altoona, Penn., and C. L. Skinner, Baltimore, Maryland, "Link Welding Machine," 24th March, 1882.
- No. 14,488. J. Dainville, Meadville, Miss., "Hay Elevators," 27th March, 1882.
- No. 13,489. S. Tarrant, Montreal, Que., "Beach Seat," 27th March, 1882.
- No. 14,490. I. I. Langles, New Orleans, Louisiana, "Show Boxes," 27th March, 1882.
- No. 14,491. I. Seeberger, West Irvy, N. Y., "Steam Piston Packing," 27th March, 1882.
- No. 14,492. W. R. Adams, Sherman, Conn., "Waggon Springs," 27th March, 1882.
- No. 14,493. T. R. Ferrall, Boston, Mass., "Anti-Frictional Bearings," 27th March, 1882.
- No. 14,494. T. Kershaw and H. E. Cunningham, Philadelphia, Penn., "Card Teeth," 27th March, 1882.

- No. 14,495. C. E. Grandy, Lyndonville, Vermont, "Wood Splitting Machines," 27th March, 1882.
- No. 14,496. R. I. Creelman and R. Creelman, Georgetown, Ont., "Knitting Machine." (Re-issue of Patent No. 10,193,) 27th March, 1882.
- No. 14,497. J. W. Shattuck, Albany, N.Y., "Packing Cans and Boxes," 27th March, 1882.
- No. 14,498. L. Lane and L. D. Woodworth, Youngton, Ohio, "Roofing Plates," 29th March, 1882.
- No. 14,499. H. S. McLean, West River, N.S., "Wringing and Washing Machines," 29th March, 1882.
- No. 14,500. C. H. Roberts, Lloyd, N.Y., "Preserving storage by Storage in Silos," 29th March, 1882.
- No. 14,501. J. T. Ferres, and E. R. Shepard, Abercorn, Que., "Butter and Fruit Packages," 29th March, 1882.
- No. 14,502. J. Parker, Stevedage, Eng., "Digging Machine," 29th March, 1882.
- No. 14,503. F. S. Barff, Kilburn, Eng., "Compound Employed in the Preservation of Organic Substances," 29th March, 1882.
- No. 14,504. C. A. Blanchard, Concord, N.H., "Butter Worker," 29th March, 1882.
- No. 14,505. D. Mills, Philadelphia, Penn., "Sewing Machines," 29th March, 1882.
- No. 14,506. G. A. Cochrane, Liverpool, Eng., "Fruit Saver," (Re-issue of Patent No. 1314,) 29th March, 1882.
- No. 14,507. G. A. Cochrane, Liverpool, Eng., "Fruit Saver," (Re-issue of Patent No. 6257,) 29th March, 1882.
- No. 14,508. S. Coxon, Toronto, Ont., "Safety Signal Lamp," (Extension of Patent No. 7287,) 29th March, 1882.
- No. 14,509. A. H. Hammond, Worcester, Mass., "Reed Organ," (Extension of Patent No. 7563,) 30th March, 1882.
- No. 14,510. A. H. Hammond, Worcester, Mass., "Reed Organ," (Extension of Patent No. 7563,) 30th March, 1882.
- No. 14,511. R. Reach, Washington, D.C., "Water Closet," 30th March, 1882.
- No. 14,512. J. Kilbourne, Columbus, Ohio, "Sink," 30th March, 1882.
- No. 14,513. H. D. Feldman, Philadelphia, Penn., "Pulverizer," 30th March, 1882.
- No. 14,514. I. E. Barrett, Mount Vernon, Iowa, "Car Coupling," 30th March, 1882.
- No. 14,515. W. J. Guard, Sarnia, Ont., "Wring Piston Motor," 30th March, 1882.
- No. 14,516. L. Provancher, Denver, Col., "Carriage Axle," 30th March, 1882.
- No. 14,517. J. S. Symmonds, London, Ont., "Fire Bottom," 30th March, 1882.
- No. 14,518. M. H. Kerner, New York, "Electric Burglar Alarm," 31st March, 1882.
- No. 14,519. V. Rice, Oimsted Falls, Ohio, "Belt Coupling," 31st March, 1882.
- No. 14,520. A. J. Leslie, Cleveland, Ohio, "Inhaling Apparatus," 31st March, 1882.
- No. 14,521. F. R. Smith and W. S. Barnum, Syracuse, N. Y., "E. Sacermen's Reel," 31st March, 1882.
- No. 14,522. T. H. Burrows, Springfield, Mass., "Yarn Reel," 31st March, 1882.
- No. 14,523. J. Walker, Derby, Eng., "Connecting and Disconnecting Link," 31st March, 1882.
- No. 14,524. G. Cox, London, Ont., "Envelope," 31st March, 1882.
- No. 14,525. W. K. Rhodes, Portland, Maine, "Lubricator," 31st March, 1882.
- No. 14,526. W. Guest, and C. Court, Deptford, Eng., "Process of Preparing Wall Stuff," 3rd April, 1882.
- No. 14,527. J. Hale, Detroit, Mich., "Elliptic Springs, &c.," 3rd April, 1882.
- No. 14,528. W. A. Young, Berlin, Ont., "Boot Trees," 3rd April, 1882.
- No. 14,529. J. H. Byrne, Toronto, Ont., "Air Pump," 3rd April, 1882.
- No. 14,530. I. Cullen, Pittsburg, Penn., "Excelsior Brick Machine," 3rd April, 1882.
- No. 14,531. J. Huggill Woodbridge, Cal., "Draft Adjusting Device for Harness," 3rd April, 1882.
- No. 14,532. P. P. Pratt, and M. G. Ruffington, Columbus, Ohio, "Portable Device for Routing and Filing Cigarettes," 3rd April, 1882.
- No. 14,533. G. Walker and E. W. Rathbun, Deseronto, Ont., P.O., "Deseronto Compressed Fuel," 3rd April, 1882.
- No. 14,534. T. S. Philipps, G. D. Briggs and W. F. Miller, Buffalo, N.Y., "Lubricating Device," 3rd April, 1882.
- No. 14,535. W. C. Thompson, Tipton, Penn., "Eureka Paddle Wheel," (Extension of Patent No. 7311,) 3rd April, 1882.
- No. 14,536. E. Collins Dundas, P. O., "Suspension Bag Holder," (Extension of Patent No. 1,498,) 3rd April, 1882.
- No. 14,537. H. Monk, and W. Monk, Hadlow Cove, P.Q., "Adjustable High Pressure Engine," 4th April, 1882.
- No. 14,538. H. H. Hewith and F. G. Susemithe, Detroit, Mich., "Friction Car Doors," 4th April, 1882.
- No. 14,539. G. B. Libby, Lehigh, Iowa, "Fire Machine," 4th April, 1882.
- No. 14,540. J. H. Hunt and F. W. Jones, Spartanburgh, S. T. "Car Couplings," 5th April, 1882.
- No. 14,541. G. McSherry, Ingersoll, P.O., "Double-Furrow Plough Break with Ratchet Attachment," 5th April, 1882.
- No. 14,542. R. T. Jeffery, Toronto, P. O., "Gas Motor Engines," 5th March, 1882.
- No. 14,543. R. H. Briggs and J. H. Dougherty, Whistler, Alabama, "Car Door Fastener," 5th April, 1882.
- No. 14,544. T. W. Hogsett, Edray, W. V., "Improved Churn Power," 5th April, 1882.
- No. 14,545. W. H. Hugham, Winnipeg, Man., "Sanitary Stone Cement," 5th March, 1882.
- No. 14,546. D. O. Everest, Pine Grove Mills., "Cultivator," 5th April, 1882.
- No. 14,547. C. Greenwood, Farmington Falls, Maine, "Ear Protector," 5th April, 1882.
- No. 15,138. C. Deis, Buffalo, N.Y., "Egg Beater," 5th April, 1882.
- No. 14,549. G. E. Yost, Theresa, N.Y., "Improved Axle Oilier," 5th April, 1882.
- No. 14,550. J. Harley, Bothwell, P. O., "Tube Cleaner," 5th April, 1882.
- No. 14,551. W. G. Alexander, Oskaloosa, Iowa, "Gate Hanging," 5th April, 1882.
- No. 14,552. J. Bennett, Lucknow, P.O., "Churn," 5th April, 1882.
- No. 14,553. W. H. Kirby, Warsaw, K.Y., "Stirrups Fastening," 5th April, 1882.
- No. 14,554. F. J. Hazard and T. Fuller, Belville, P. O., "Improvements in Reapers and Mowers," 5th April, 1882.
- No. 14,555. H. W. Burr, Cambridgeport, Mass., "Electric Cured," 5th April, 1882.
- No. 14,556. J. F. Ferguson, Cassex, V.T., "Milk Bureau," (Extension of Patent No. 7722,) 5th April, 1882.
- No. 14,557. A. F. Lee, S. W. Ludwig, A. Warner, E. Tellinec and L. A. Warner, jr., assignees, Buffalo, N.Y., "Overalls, Pantalons, &c.," 5th April, 1882.
- No. 14,558. J. S. Ford, H. W. J. Reuben, A. Hitchcock, H. H. Ford, S. W. Ford and M. E. Ford, Assignees, Chicago, Ill., "Machinery for Weaving Cane," 8th April, 1882.
- No. 14,559. J. M. Peck, Flushing, N.Y., "Panel System of Building," 8th April, 1882.
- No. 14,560. J. Moon, Amherst, N.S., "Adjustable Seats for Vehicles and Sleighs," 8th April, 1882.
- No. 14,561. G. Yon, Montreal, P. Q., "Brick," 8th April, 1882.
- No. 14,562. H. Lemmon, Guelph, P. O., "Safe Combination Lock Attachment," 8th April, 1882.
- No. 14,563. C. D. Clarke and J. Leigh, Manchester, Eng., "Electric Fire Fly," 8th April, 1882.
- No. 14,564. S. R. Foster, St. John, N.B., "Fosterizing," 8th April, 1882.
- No. 14,565. G. Bettchen, Wilnot, P.O., "Adjustable Corn and Root Cultivator," (Extension of Patent No. 8115,) 8th April, 1882.
- No. 14,566. G. F. Bond, Troy, N.Y., "Car Coupling," 11th April, 1882.
- No. 14,567. G. V. Nanerth, Cincinnati, Ohio, "Globe Letter and Manuscript File," 11th April, 1882.
- No. 14,568. F. C. Mercer, Winnipeg, Man., "Patent Vehicle Wheel Scraper," 11th April, 1882.
- No. 14,569. S. P. M. Tasker, Philadelphia, Penn., "Wet Pulverizer," 11th April, 1882.
- No. 14,470. S. N. Smith, New York, N. Y., "Truck for Railway Cars," 11th April, 1882.
- No. 14,571. J. F. Grobb, Beamsville, P. O., "Combined Churn and Cream Pale," 11th April, 1882.
- No. 14,572. W. B. Dean, New York, N. Y., "Lemon Squeezer," 11th April, 1882.
- No. 14,573. G. Castle, Ava, N.Y., "Cheese Hoop Followers," 11th April, 1882.
- No. 14,474. D. Conboy, Uxbridge, Ont., "Shifting Railroad," (Re-issue of Patent No. 10,575,) 11th April, 1882.
- No. 14,575. S. W. Martin, Springfield, Ohio, "Collapsing Taps and Expanding Dies," (Extension of Patent No. 7357,) 11th April, 1882.
- No. 14,576. H. Gladwin, Halifax, N. S., "Car Coupler," 11th April, 1882.
- No. 14,577. A. C. Brown and H. H. C. Saunders, London, Eng., "Telephonic and Telegraphic Signalling Apparatus," 11th April, 1882.
- No. 15,578. A. Arnot, Lexington, and W. Winterstein, Peck, Mich., "Weighing and Lifting Devices," 11th April, 1882.
- No. 14,579. R. Hemingray, Covington, Kentucky, "Glass Dresses," 11th April, 1882.
- No. 14,580. N. Malmar, Brooklyn, N. Y., "Coats," 11th April, 1882.
- No. 14,581. J. L. Perry and C. A. Mather, Berlin, Wis., "Polishing Machines," 11th April, 1882.
- No. 14,582. C. V. Carlier, Roulers, and A. W. Elliott, Bruges, Belgium, "Process of Treating and Preparing certain Products to be Used for Making Beverages," 11th April, 1882.
- No. 14,588. M. A. Gilman, Westfield, Mass., 11th April, 1882.
- No. 14,584. O. Charland, Gentilly, P. Q., "Chaufferie," (Prolongation de durée d'un Brevet No. 7342,) 11 Avril, 1882.
- No. 14,585. D. W. Davis and E. W. Voigt, Detroit, Mich., "Refrigerator," 11th April, 1882.
- No. 14,585. M. Souvielle, Montreal Que., "Spirometer," (Extension of Patent No. 14,427,) 12th April, 1882.
- No. 14,587. M. Souvielle, Montreal, Que., "Spirometer," (Extension of Patent No. 14,427,) 12th April, 1882.

No. 14,588. Whitely, Fassler and Kelly, Assignees, Springfield, Ohio, "Harvesting and Binding Machinery." (Extension of Patent No. 14,483) 13th April, 1882.

No. 14,589. Whitely, Fassler and Kelly, Assignees, Springfield, Ohio, "Harvesting and Binding Machinery." (Extension of Patent No. 14,483) 14th April, 1882.

No. 14,590. R. M. Patchin, Whyland, N.Y., "Combined Burglar Alarm and Door Bolt," 5th April, 1882.

No. 14,591. J. P. Hall, Bluffton, Ind., "Saw Guide," 15th April, 1882.

No. 14,592. C. L. King, Detroit, and C. W. King, Kalamazoo, Mich., "Boats," 15th April, 1882.

No. 14,593. J. R. H. Davis and S. L. Davis, Silver Plume, Colorado, 15th April, 1882.

No. 14,594. S. P. M. Tasker, Philadelphia, Penn., "Adjustable Pulverizer Disc," 15th April, 1882.

No. 14,595. E. J. Houser, Fort Valley, Georgia, "Fertilizing Company," 15th April, 1882.

No. 14,596. S. T. Gerow, Pieton, Ont., "Stone Picker and Excavator," 15th April, 1882.

No. 14,597. G. de Laval, Stockholm, Sweden, "Fluid Separator," 15th April, 1882.

No. 14,598. D. Borton, Philadelphia, Penn., and C. H. Wilcox, New York, N. Y., "Method and Apparatus for Sewing, etc.," 15th April, 1882.

No. 14,599. G. W. Nichols, Clinton City, Iowa, "Air Cushion Compression Cylinders for Gang Saws," 15th April, 1882.

No. 14,600. G. W. Nichols, Clinton City, Iowa, "Air Cushion Compression Cylinders for Pressure Rollers of Gang Saws," 15th April, 1882.

No. 14,601. J. G. Schiller and J. W. Smith, Youngstown, Ohio, "Car Brake and Tender," 17th April, 1882.

No. 14,602. J. Reese, Pittsburg, Penn., and W. H. Burland, Montreal, Que., "Car Wheels," 17th April, 1882.

No. 14,603. J. W. F. Sole, Guelph, Ont., "Furnaces," 17th April, 1882.

No. 14,604. A. F. Ellis, and S. C. Lond, Boston Mass., "Ship Pumps," (Extension of Patent No. 7392), 17th April, 1882.

No. 14,605. A. Wiggin, Boston Mass., "Automatic Fountain Carburer," (Extension of Patent No. 7385), 17th April, 1882.

No. 14,606. W. Russell, Dundas, Ont., "Truss Rod for Reaper Tables," (Extension of Patent No. 7433), 17th April, 1882.

No. 14,607. The Hand Stitch Broom Sewing Machine Company, Pittsburgh, Penn., Assignees "Broom Sewing Machine," (Extension of Patent No. 14,363), 17th April, 1882.

No. 14,608. The Hand Stitch Broom Sewing Machine Company, Pittsburgh, Penn., Assignee, "Broom Sewing Machine," (Extension of Patent No. 14,363), 18th April, 1882.

No. 14,609. C. J. Slaughter, Grand Junction, Mich., "Car Label Holders," 19th April, 1882.

No. 14,610. D. McDonald, Norwich, Ont., "Fruit and Vegetable Evaporator," 19th April, 1882.

No. 14,611. W. Q. Mastin, Oswego, N. Y., "Composition for Smelting Iron and other Ores," 19th April, 1882.

No. 14,612. J. Smith, N. Y., "Axle Boxes for Cars," 19th April, 1882.

No. 14,613. W. H. Johnson, Industry, Maine, "Shovel Handle," 19th April, 1882.

No. 14,614. M. N. Kacer, St. Louis, Miss., "Bottle Wrapper," 19th April, 1882.

No. 14,615. G. W. Freeman, Amherst, N. S., "Adjustable Slide Reaper," 19th April, 1882.

No. 14,616. H. Roberts, Pittsburgh, Penn., "Apparatus for Coating Metals with Zinc," 19th April, 1882.

No. 14,617. T. S. Very, Boston, Mass., Assignee, "Horse Shoe Machine," (Extension of Patent No. 7359), 19th April, 1882.

No. 14,618. A. C. Mather, Chicago, Ill., "Stock Car," 19th April, 1882.

No. 14,619. M. L. Keen, Experiment Mills, Penn., "Manufacture of Paper Pulp," 19th April, 1882.

No. 14,620. G. P. Gauster, Reading, Penn., "Gas Lighter and Extinguisher," 19th April, 1882.

No. 14,621. W. P. Cook, Foxborough, Mass., "Shuttle Sewing Machine," 20th April, 1882.

No. 14,622. W. Barton, Newark, N. J., "Wash Boiler Fountains," 20th April, 1882.

No. 14,623. R. J. LaGrange, Philadelphia, Penn., "Adjustable Ring," 20th April, 1882.

No. 14,624. C. M. Raymond, Boston, Mass., "Roller Skates," 20th April, 1882.

No. 14,625. W. N. Higgins, Wicklow, Ont., "Carriage Jack," 20th April, 1882.

No. 14,626. J. Plenkharp, Columbus, Ohio, "Table," 20th April, 1882.

No. 14,627. J. W. Ford, San Francisco, Cal., "Fish Hook Extractor," 20th April, 1882.

No. 14,628. R. McLaughlin, Oshawa, Ont., "Reach Plate and Ring Bolt Fastener," 20th April, 1882.

No. 14,629. S. M. Stevens, De Kalb, Ill., "Fence Wire Stretcher," 20th April, 1882.

No. 14,630. J. Von Zach, Budapest, Hungary, "Swinging Lever Engine," 20th April, 1881.

No. 14,631. E. Turpin, Paris, France, "Explosive Compound," 20th April, 1882.

No. 14,632. M. Bray, Newton, Mass., "Lacing Hooks," 20th April, 1882.

No. 14,633. T. Dunn, Montreal, Que., "Button Hole Casing," 20th April, 1882.

No. 14,634. W. H. Nicholson, Wilkes-Barre, Penn., "Expanding Mandrel," 21st April, 1882.

No. 14,635. J. Smirl, Finch, Ont., "Horse Power," 21st April, 1882.

No. 14,636. T. E. Gatchouse, Camberwell, Eng., "Electric Lamp," 21st April, 1882.

No. 14,637. J. E. Weller, Kalamazoo, Mich., "Cultivators," 21st April, 1882.

No. 14,638. J. M. Thorpe and J. A. Belloli, San Jose, Cal., "Cushion Protector for Bottle and Jars," 21st April, 1882.

No. 14,639. C. Smith, Irwins Station, Penn., "Smoke Consuming Furnace," 21st April, 1882.

No. 14,640. W. Farquhar, W. Norriset, and J. A. M. Baudry, Montreal, Que., "Hydraulic Power," 21st April, 1882.

No. 14,641. W. Haddock, J. Frank, Cincinnati, Ohio, and I. Frank, New York, N. Y., "Cable Street Railroad," 21st April, 1882.

No. 14,642. T. M. McCosh, Burlington, Iowa, Assignee, "Steel Barb Wire Fence," 21st April, 1882.

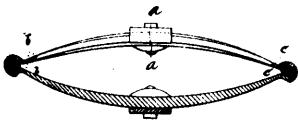
THE CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

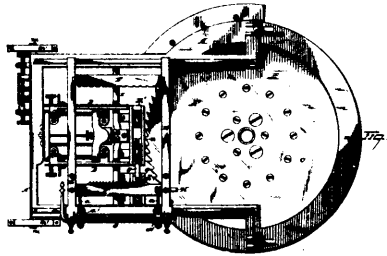
Vol. X.

MARCH, 1882.

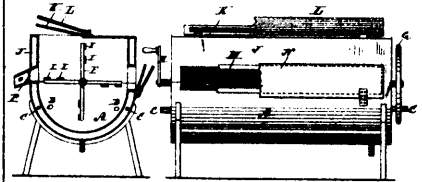
No. 3.



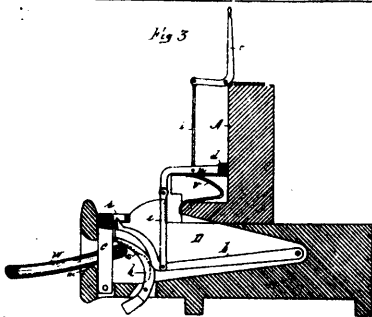
14117 Cliff's Improvements on Elliptic Springs.



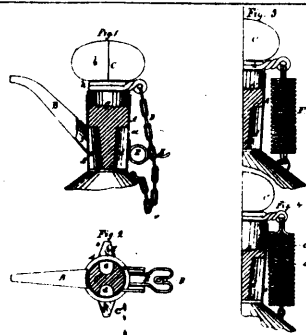
14118 Perkins's Improvements on Shingle Machines.



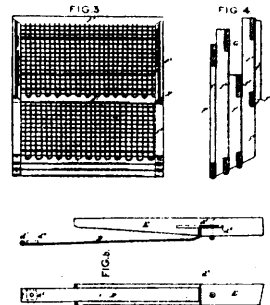
14119 Dufort & Eldridge's Improvements on Feather Renovators.



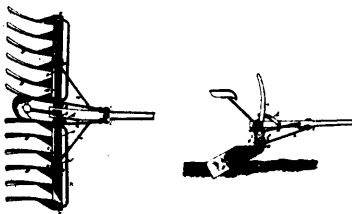
14120 Prescott's Improvements in Car Couplings.



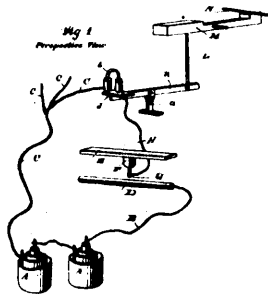
14127 Rodden's Improvements in Can Stoppers.



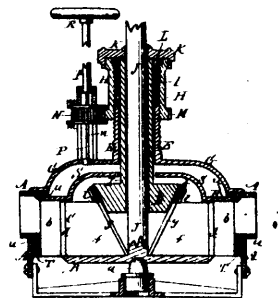
14129 Keller's Improvements in Fanning Mills.



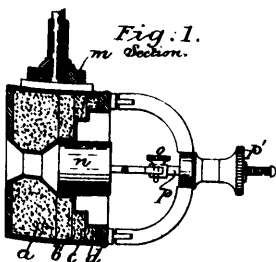
14130 Lane's Improvements on Harrows.



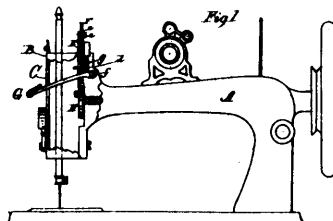
14131 Andrews's Improvements on Pianos and Organs.



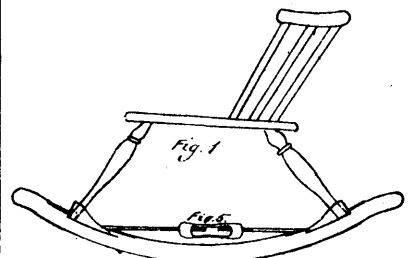
14132 Cowley's Improvements on Water Wheels.



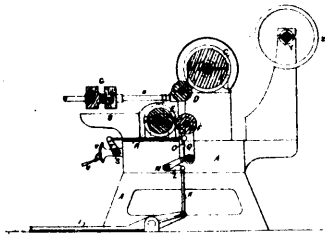
14138 Fuller's Improvements on Telegraph Receiving Apparatus.



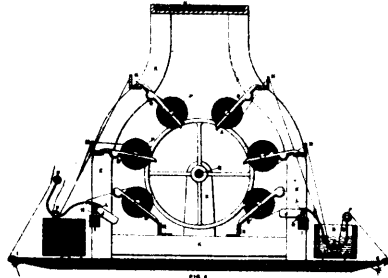
14134 Stevens's Improvement in Sewing Machines.



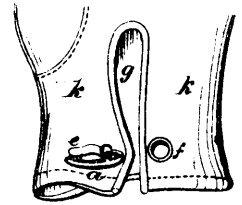
14135 Gilpin's Improvement on Chairs.



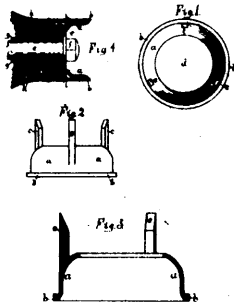
14136 Janson's Improvement on Machinery for Tanning Hides, Skins or Pelts.



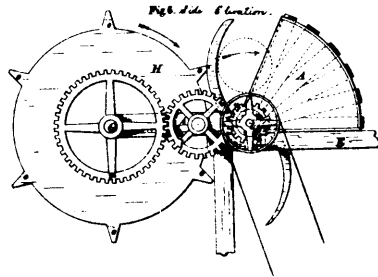
14138 Yates's Improvements on Machines for Twisting and Doubling Cotton.



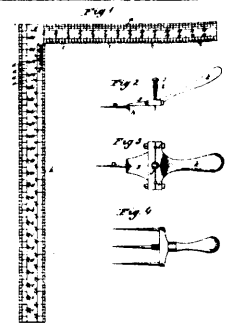
14139 Horsepool's Improvements on Glove Fasteners.



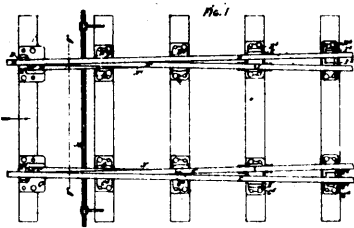
14140 Atwood's Improvements in Nub Bands.



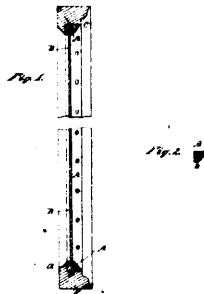
14141 Rice's Improvements on Apple Slicers.



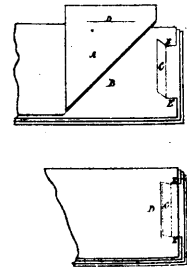
14142 Low's Improvements on Squares.



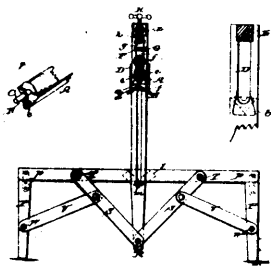
14143 Whitehead & Dodd's Improvement in Railway Points.



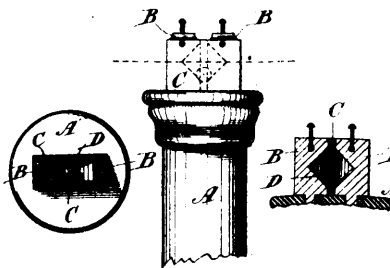
14144 Tanner's Improvements in Window Light Fasteners.



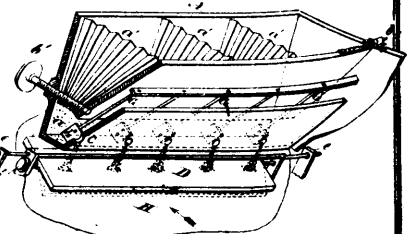
14148 Ide's Method of Making Collars and Cuffs.



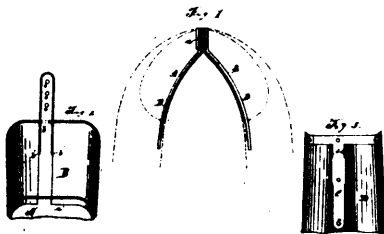
14149 Laux's Improvements on Wringers and Benches.



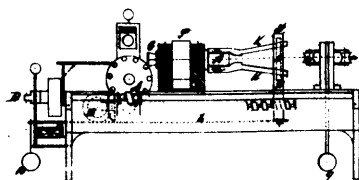
14151 Gilliland's Improvements in Telephones.



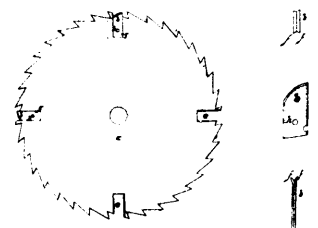
14152 Hadden's Apparatus for Distributing Pulverulent Substances.



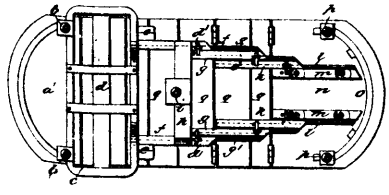
14153 Whitney's Improvements on Horse Collars.



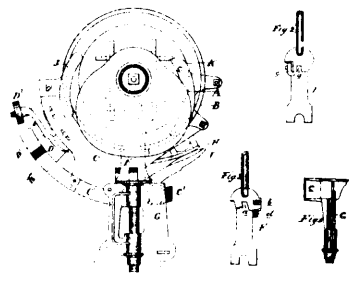
14154 Wette's Improvements on Lathes.



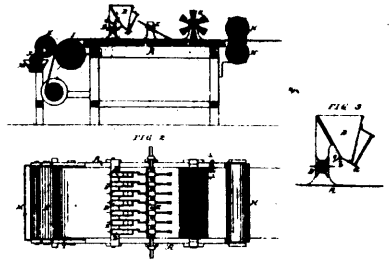
14155 Genin's Improvements on Circular Saws.



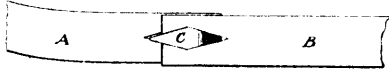
14156 Bismann's Improvements on Folding Leaf Tables.



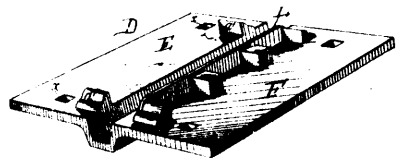
14157 Wilson's Improvements in Harvesting Machines.



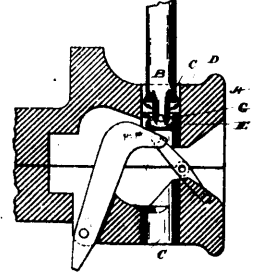
14158 Toye's Improvements in the Manufacture of Ornamented Fabrics.



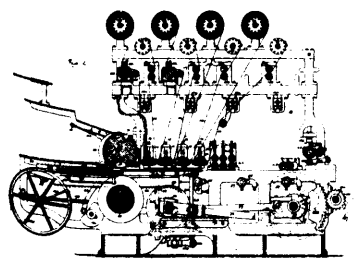
14172 Walsley's Improvements on Metallic Fences.



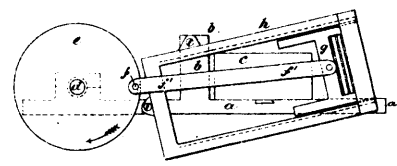
14173 Cooper's Improvements on Head Chairs for Railway Switches.



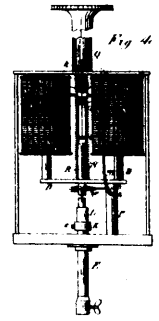
14175 Perry's Improvements on Car Couplings.



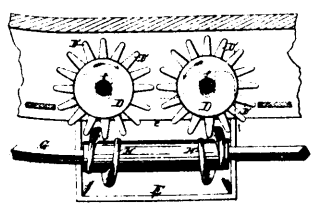
14176 Lee's Improvements on Plate Printing Machines.



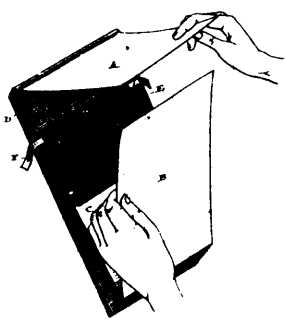
14177 Smith's Improvements in Veneer Cutting Machines.



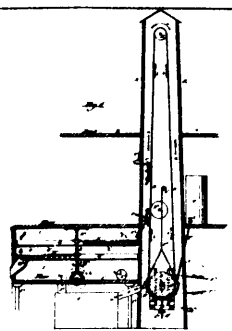
14180 Willson's Improvements in Electric Lamps.



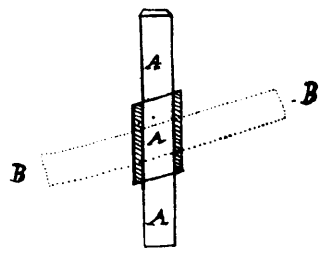
14181 Hart's Improvements in Fertilizer Distributors.



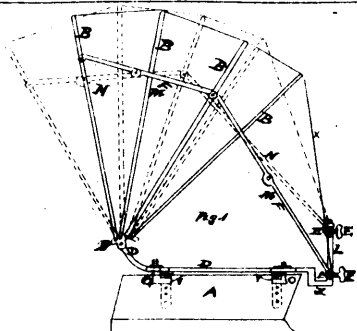
14182 Carter's Improvements on Cheque Books.



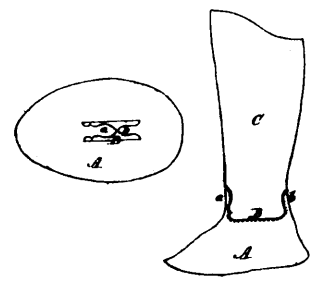
14183 Caldwell's Improvements on Methods and Means for Desiccating Eggs and other Materials.



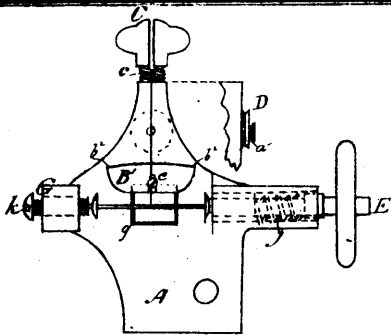
14184 Maunder's Improvements on Iron Harrows.



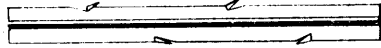
14185 Hodge's Improvements on Carriage Tops.



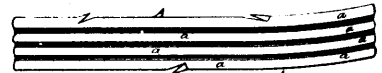
14186 Marshall's Improvement in Boots.



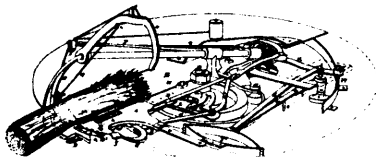
14187 Thompson's Improvement on Bobbin Winders for Shuttle Sewing Machines.



14188 Hewitt's Improvements on Metallic Fences.



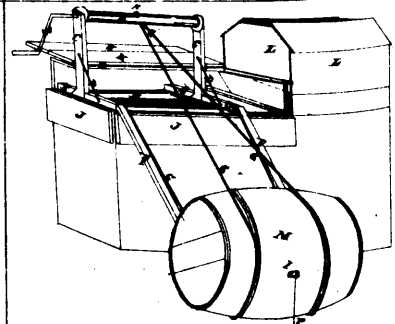
14189 Hewitt's Improvements in Metallic Fences.



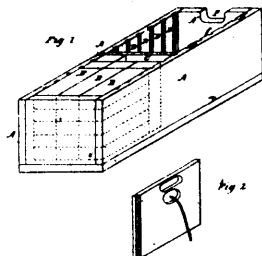
14192 Johnston's Improvements in Grain Binders.



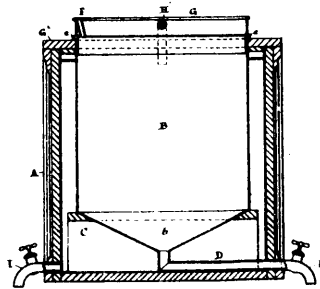
14193 Smith's Improvement in Egg Preservers.



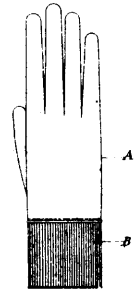
14194 Arnold's Improvements in Oil Tanks.



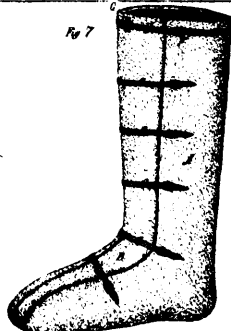
14195 Parkhurst's Improvements in Packing Boxes for Ammunition.



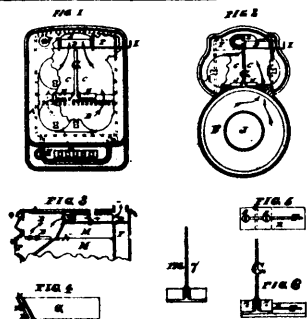
14196 Parmenter's Improvements on Creamers.



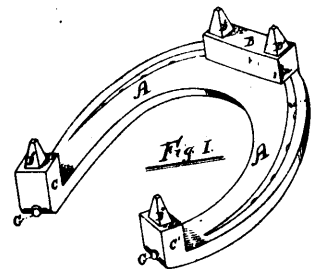
14197 Ewens's Improvements in the Manufacture of Gloves and Mitts.



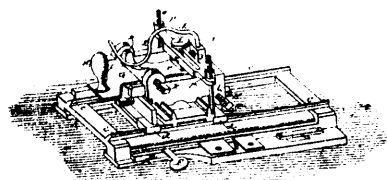
14198 Beattie's Improvements in Leg and Foot Protectors.



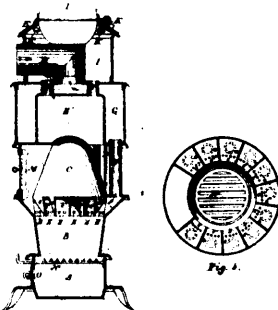
14199 Peerless's Improvement in Cooking Stoves.



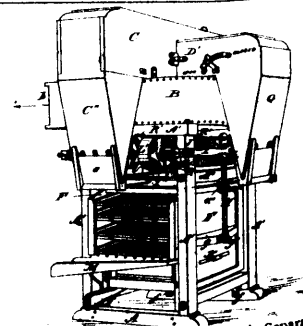
14200 Flower's Improvements in Horse Shoes.



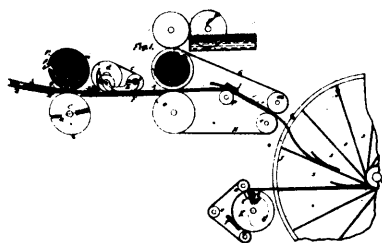
14201 Vaughan's Improvements on Machines for Dressing Millstones.



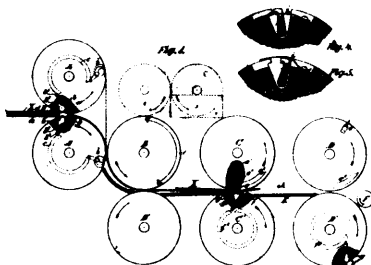
14202 Pierce's Improvements on Stoves.



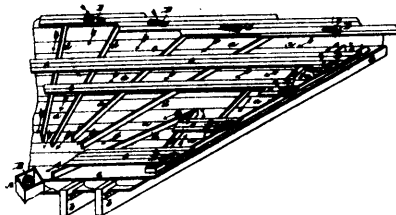
14203 Edmunds's Improvements in Grain Separators and Graders.



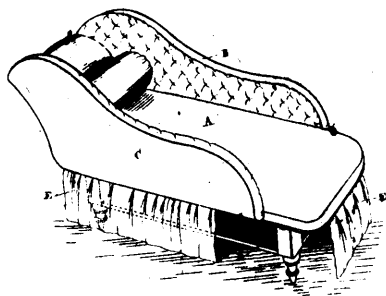
14204 Cross's Improvements in Paper Bag Machines.



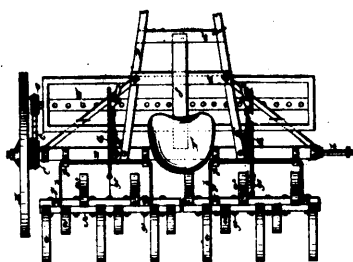
14205 Cross's Improvements in Paper Bag Machines.



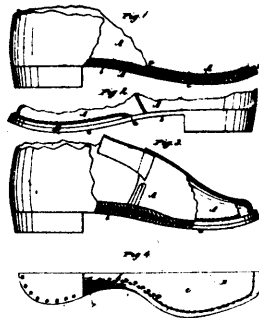
14206 Spaulding's Improvements in Heating and Ventilating Buildings.



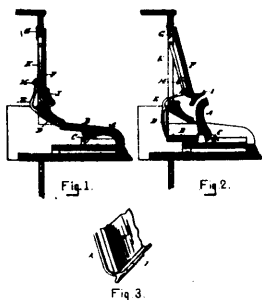
14207 Anderson's Improvements on Sofas.



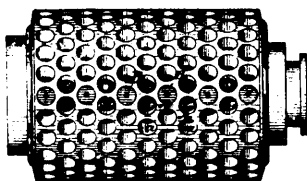
14208 Dow's Improvements on Sulky Harrows.



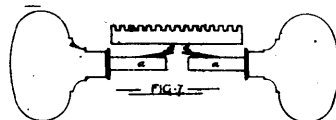
14211 Lewis's Improvement in Boots and Shoes.



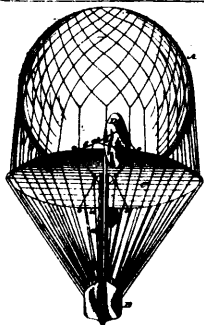
14212 Bourne's Improvement on Upright Pianos.



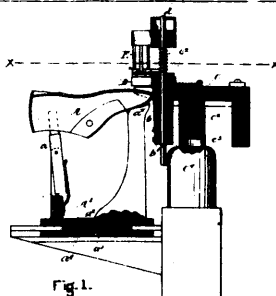
14213 Flagg's Improvement on Buffing and Polishing Machines.



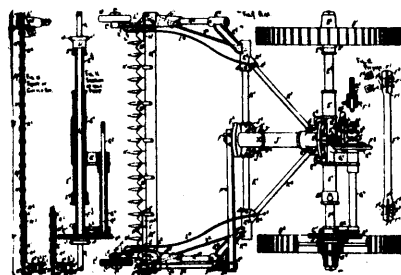
14214 Price's Improvements on Door Knobs.



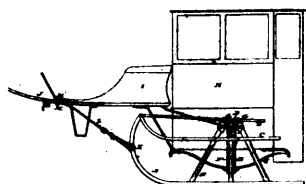
14216 Peterson's Improvements on Air Ships.



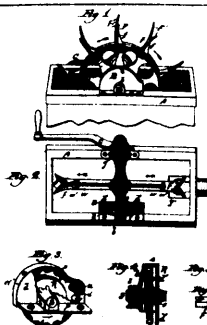
14218 Copeland's Improvements on Machines for Lasting and Tacking Boots and Shoes.



14222 Levalley's Improvements in Mowing Machines.



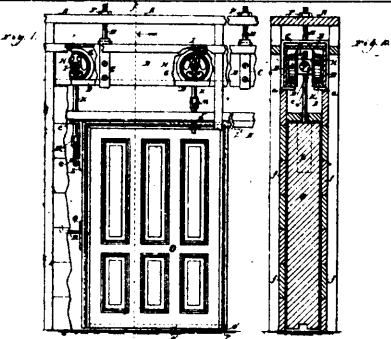
14223 Gurney's Improvements in Sleds.



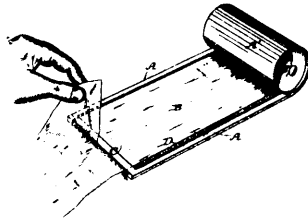
14224 Temple's Improvements in Chain Pumps.



14225 Fox's Improvements on Electric Lamps.



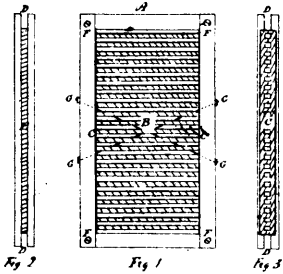
14226 Berry's Improvements on Door Hangers.



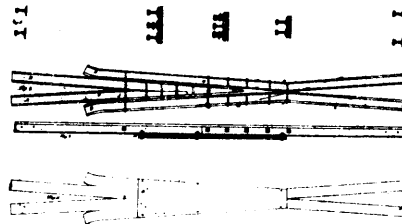
14227 Wheeler's Improvements on Portable Writing Cases.



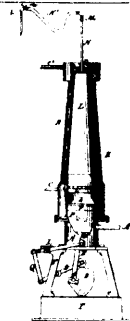
14228 Lux's Improvements on Horse Forks.



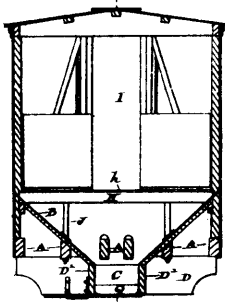
14229 Hill's Improvements on Fruit Evaporators.



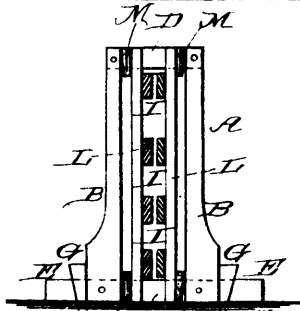
14230 Trites's Improvements on Railway Frogs.



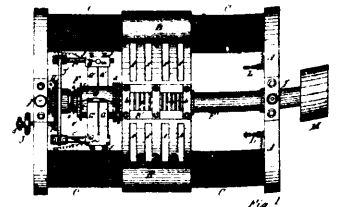
14232 Burnham's Improvements on Air Cooling and Compressing Machines.



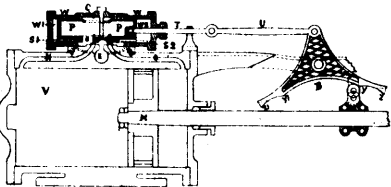
14233 Wilson's Improvements on Railway Cars.



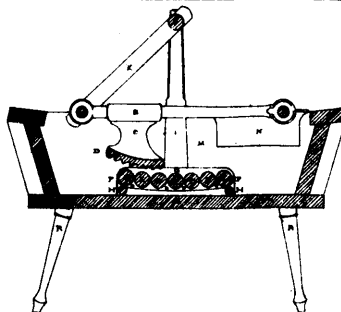
14234 Rowe's Improvements on Fences.



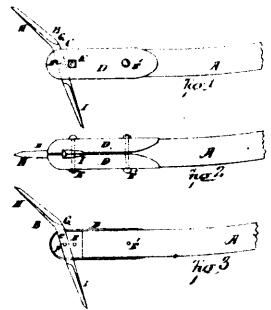
14235 Willson's Improvements in Dynamo-electric Machines.



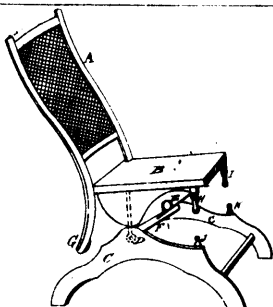
14236 Boland's Improvements on Steam Engines.



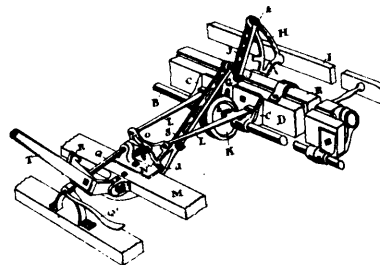
14238 Eggert's Improvements on Clothes Washing Machines.



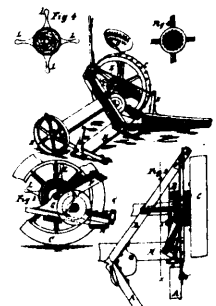
14239 Fischer's Improvement on Ice Tools.



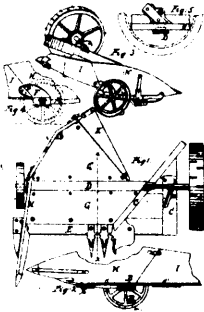
14240 Kriehoff's Improvements on Rocking Chairs.



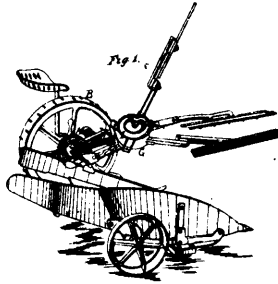
14241 Watson's Improvements on Horse Rakes.



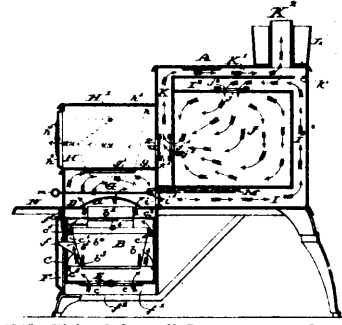
14242 Manny's Improvements on Harvesters.



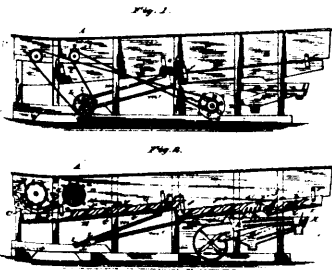
14243 Manny's Improvements on Harvesters.



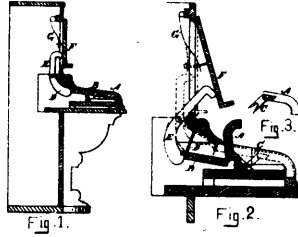
14244 Manny's Improvements on Harvesters.



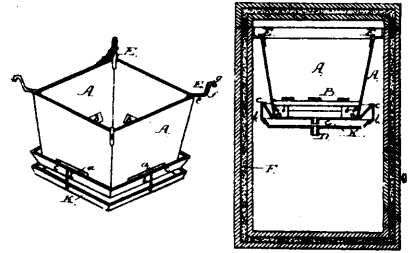
14245 Vining & Quesnel's Improvements on Cooking Stoves.



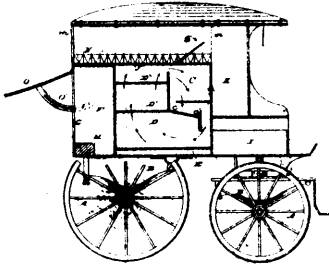
14246 The McDonald's Improvements on Thrashers and Separators.



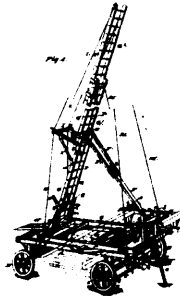
14247 Bourne's Improvement on Upright Pianos.



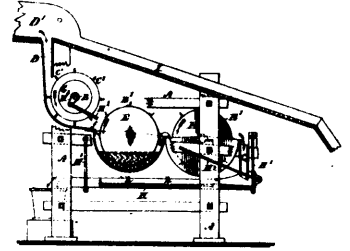
14248 Gurney's Improvements on Refrigerators.



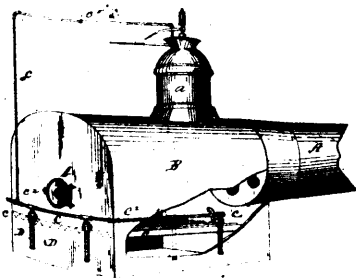
14249 Gurney's Improvements on Refrigerator Waggon.



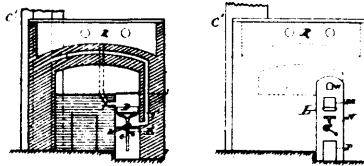
14250 Sherwood's Improvements on Fire Escape Ladders.



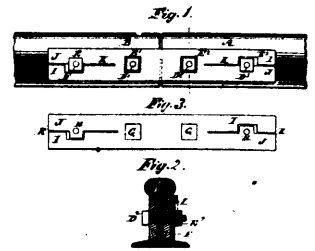
14251 Taylor's Improvements in Apparatus for Separating and Amalgamating Gold and other Precious Metals.



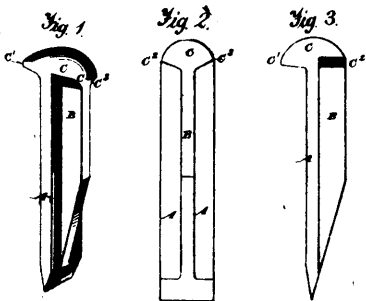
14252 Orvis's Improvements on Steam Boiler Furnaces.



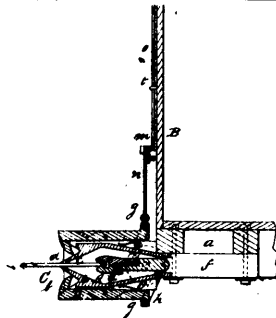
14253 Cullerton's Improvements on Furnaces for Heating Ovens and other Heating Purposes.



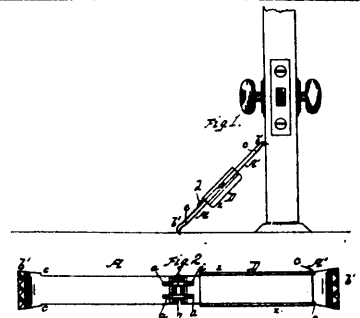
14254 Macdonald's Improvement on Nut Locks.



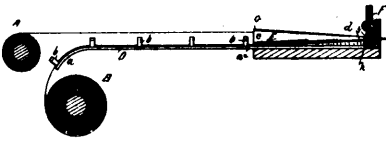
14255 Barnes's Improvements in Railway Spikes.



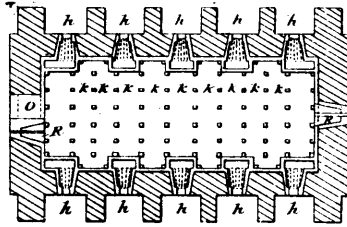
14256 Chase's Improvement in Car-couplings.



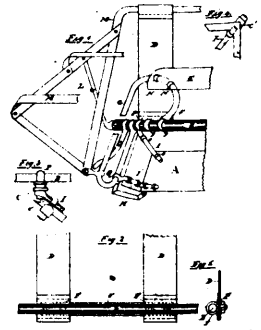
14257 Lockwood's Improvement in Door Securers.



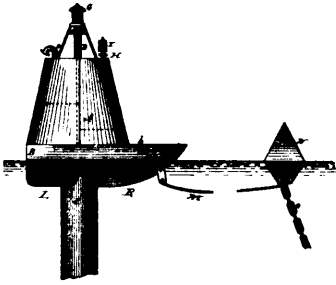
14258 Clark's Improvement in the Manufacture of Insulated Wires for Electrical Purposes.



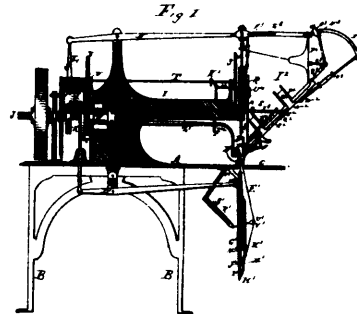
14260 Promoti & Huebner's Improvements in the Manufacture of Bricks, Slabs, Paving Stones, &c.



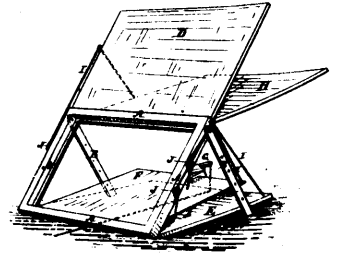
14261 McCrea's Improvements in Carriages.



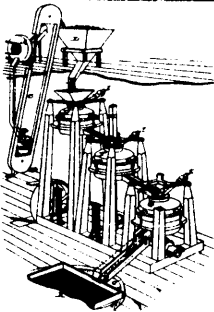
14262 Barr's Improvements on Signal Buoys.



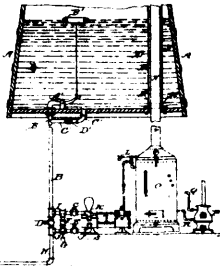
14263 Dodds's Improvements in Machines for Making Brushes.



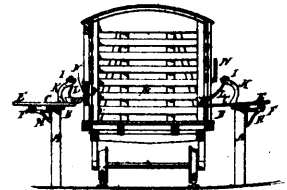
14264 Dewe's Improvements in the Mode of Exhibiting Photographs and Frames Therefor.



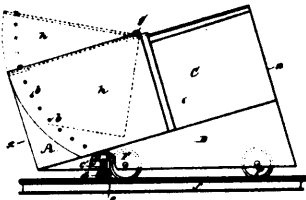
14265 Eichelberger's Improvements on Process and Mode of Manufacturing Pulp.



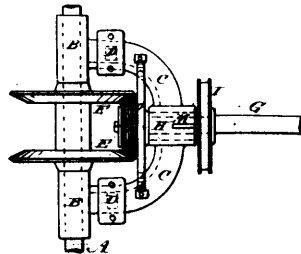
14266 Beach's Improvements on Systems of Water Works.



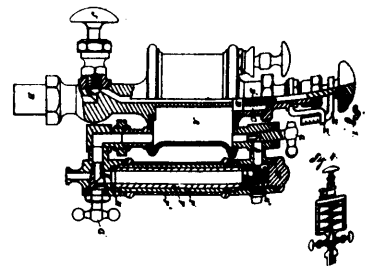
14267 Tingley's Improvements in Devices for Feeding and Watering Stock in Cars.



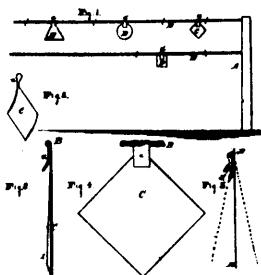
14268 Wood's Improvements on Snow Ploughs.



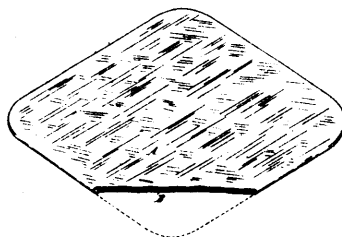
14269 Mason's Improvements on Reversing Mechanisms for Elevators and other Machines.



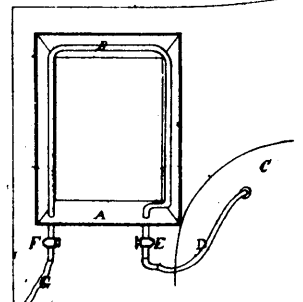
14270 McCoy's Improvements on Lubricators.



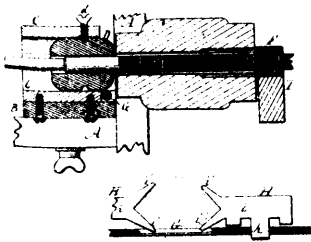
14271 La Fleur's Improvements in Tags for Barbed Fences.



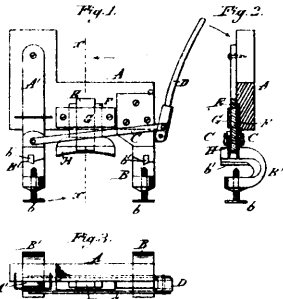
14273 Bidelman's Improvements on Stove Boards.



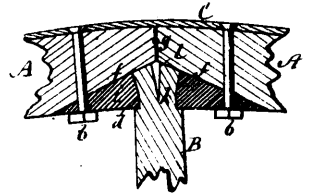
14274 Taylor's Improvements on Locomotive Cab Windows.



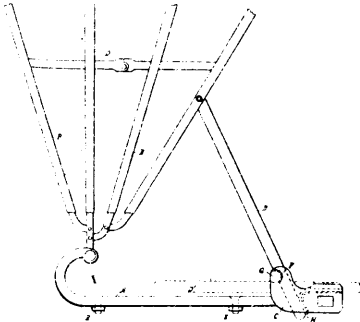
14275 Caswell's Improvements on Hub Borers and Box Setters.



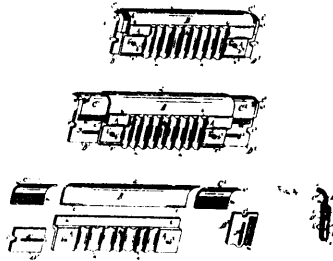
14276 Collier's Improvements in Tire Shrinkers (Upsetters.)



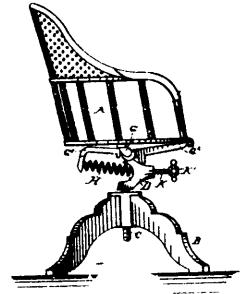
14277 Ross's Improvements on Carriage Wheels.



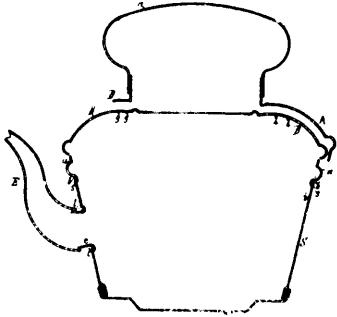
14278 Smith's Improvement in Buggy Tops.



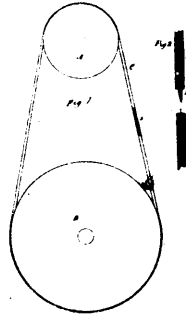
14279 Schenck's Improvements on Stove Backs.



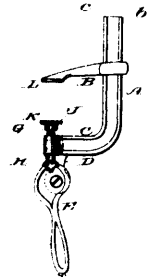
14280 Kenna's Improvements on Tilting Chairs.



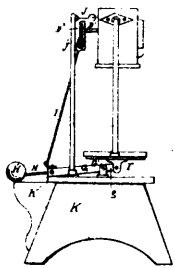
14281 Palmer's Improvement on Tea Kettles.



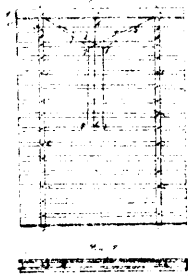
14282 Clocey's Machine Belt Splice and Fastener.



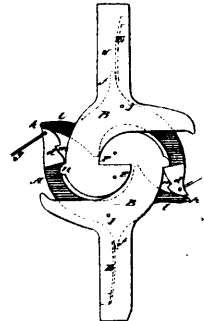
14284 Colt's Improvements on Clamps for Wood Working.



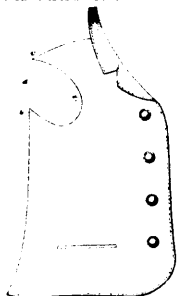
14285 Arnold & Caswood's Improvements on Elevating, Bagging and Weighing Machines for Grain Separators.



14286 Delone's Improvements on Window Blinds.



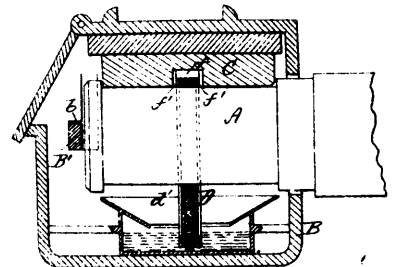
14287 Burns's Improvements in Car-couplings.



14288 Leiser's Improvement on Garment Samples.



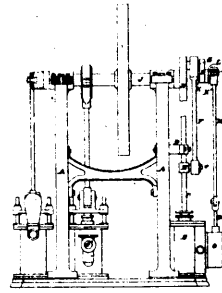
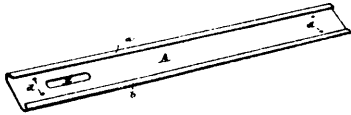
14289 Iske's Improvements on Motors.



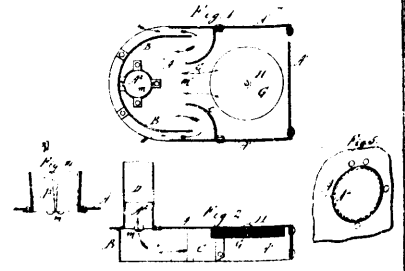
14290 Godley's Improvements on Lubricators.



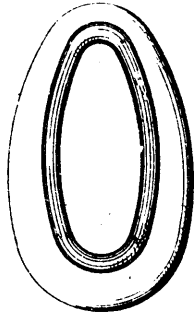
14291 Blackhall's Combined Head Line Holder and Ruler.



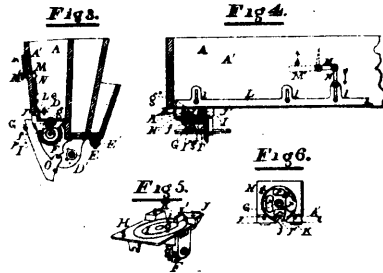
14292 Fritz's Improvements on Doctor Engines.



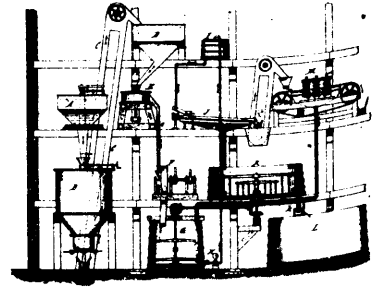
14293 Roberts's Improvements on Wash Boilers.



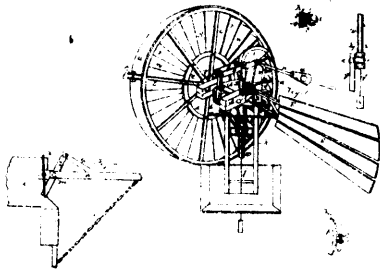
14295 Daly & Pinney's Improvements on Horse Collars.



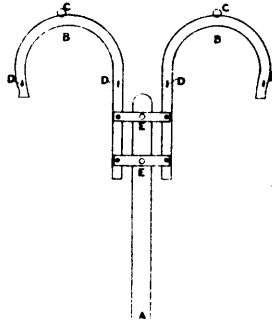
14296 Westcott's Improvements in Fertilizer Distributors.



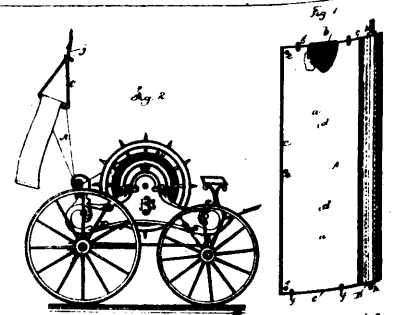
14297 Jebb's Process and Apparatus for Distilling Spirits from Grain.



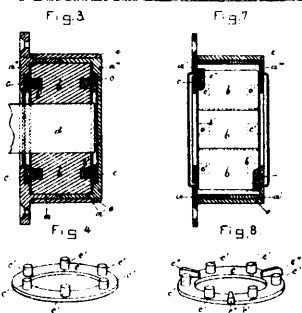
14298 Carrier's Improvements on Wind-mills.



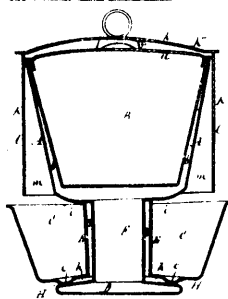
14299 McNally's Improvements in the Manner of Attaching Animals to Loads.



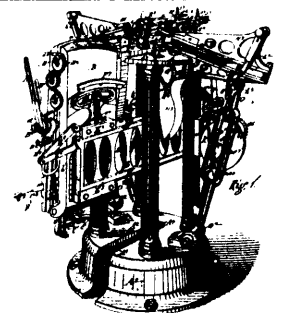
14300 Brooks's Improvements on Fire Proof Fabrics and Shields for Buildings.



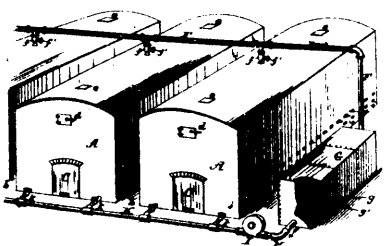
14301 Ferrall's Improvements on Anti-frictional Bearings.



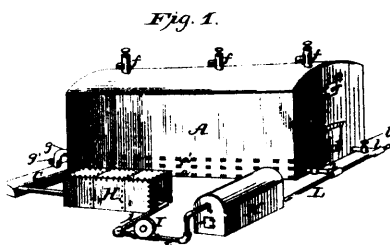
14302 Arnold's Improvements in Cooking Boilers.



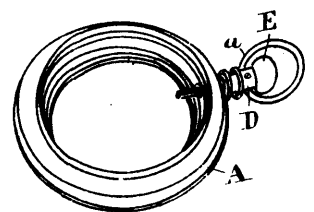
14303 McCombs & Rogers's Improvement in Broom Sewing Machinery.



14304 Pierce's Method of Extinguishing Fires in Kilns and Cooling the Charges therein.



14305 Pierce's Improvements in the Manufacture of Charcoal.



14307 Arms & Quigley's Improvements on Watch Cases.