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# The Canadian Patent Office RECORD




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## INVENTIONS PATENTED.

**No. 14,526. Process for Treating Tan or Spent Bark for the Manufacture of Paper.** (*Procédé de traitement du tan ou de l'écorce épuisée pour la fabrication du papier.*)

William Guest, Deptford, and Charles Court, Rotherlithe, England, 3rd April, 1882: for 15 years.

*Claim.*—The process of treating spent bark consisting in subjecting the same to the action of crushing rollers, to reduce the knots to a fibrous state, and then submitting the crushed material to agitation in a closed vessel under steam pressure and in the presence of an alkaline solution, whereby the material fibres of the bark are separated and converted into half stuff in an economical manner, and the tannic acid contained in the spent bark is extracted in a concentrated form.

**No. 14,527. Improvement in Devices for Banding Elliptic Springs.** (*Perfectionnement les appareils à assembler les ressorts elliptiques.*)

James Hale, Detroit, Mich., U.S., 3rd April, 1882: for 10 years.

*Claim.*—1st. The method of forming and securing metallic bands by forging the same upon a mandrel in dies removably secured to the anvil and head of a steam hammer, and provided with recesses of the same shape as the finished band and by means of the same dies swaging said bands upon the article to be banded, or the forging and setting the band directly upon the spring, if desirable without the use of a mandrel. 2nd. In combination with the head and anvil of a steam hammer, the die consisting of the upper and lower half CD removably secured to said head and anvil, each die being provided with a recess of the same shape as one half of the finished band.

**No. 14,528. Improvement on Boot Trees.** (*Perfectionnements aux embouchoirs des bottes.*)

Hugo Kranz and Henry Aletter, (Assignees of William A. Young.) Berlin, Ont., 3rd April, 1882: for 5 years.

*Claim.*—1st. The combination of the parts A B, and the nuts F G, having retaining guides / and g, holding the parts A and B relatively together when not inserted in the boot. 2nd. The combination of slide collars H completely surrounding each half of the top of tree, and links J connecting the collars to the upper nut G for producing a longitudinal stretch simultaneously with transverse expansion. 3rd. The combination of the adjustable stop pin K and the screw spindle D having holes for limiting the operation of the screw D, whereby a specific size of boot is produced. 4th. In combination with the front B, the foot C, but jointed by an inclined plane or curve pressed forward thereby, when the tree is inserted in the boot. 5th. The parts C and D constructed of metal, in combination with the means for operating the same.

**No. 14,529. Improvements in Gas Machines.** (*Perfectionnements aux machines à gaz.*)

James H. Byrne, Toronto, Ont., 3rd April, 1882: for 5 years.

*Claim.*—1st. In a portable frame in which two metal standards are arranged to carry the air pump of a gas machine, the combination of a rod passing through holes in the standards and forming rails on either side of the pump, and a support for carrying the outer end of

the spool, the said rod being secured to the standards by set screws to permit of the ready adjustment of the standards and rod, in order to accommodate any variation in the side of the pump. 2nd. In a portable frame in which two metal standards are arranged to carry the air pump of a gas machine, a rod passing through holes in the said standards, and forming rails on either side of the pump, and a support for carrying the outer end of the spool, in combination with a bracing rod passing through holes in the standard and extending obliquely from the outer side of one of the standards to the bearing supporting the outer end of the spool, the said rod and brace being secured to the standards by set screws, for the purpose of permitting adjustment of the standards and rods. 3rd. In connection with a frame for supporting the pump of a gas machine, the combination of a bearing box L, grooved to fit over the rod C, and secured to the bearing box G so that it can be readily removed without disturbing the other portion of the machine.

**No. 14,530. Improvements on Brick Machines.** (*Perfectionnements aux machines à briques.*)

Israel Cullen, Pittsburg, Penn., U.S., 3rd April, 1882: for 5 years.

*Claim.*—1st. In combination with a tempering mill provided with one or more discharging apertures for clay, a vertically revolving shaft provided with any suitable number of tempering arms or cutters, and one or more inclined pressers or feeders adapted to force the clay into suitable receivers preparatory to moulding. 2nd. The combination, with a tempering mill provided with one or more discharging apertures for clay, and movable slides or cut offs for closing said apertures, of a vertically revolving shaft provided with any suitable tempering arms or cutters and one or more inclined pressers or feeders adapted to force the clay, into suitable receivers, preparatory to moulding, and one or more vertically movable stops adapted to hold the clay, while the inclined pressers or feeders force it into the said receivers. 3rd. The combination, with the tempering mill and vertical shaft the latter provided with suitable cutters and feeders of clay receivers situated below said tempering mill and communicating therewith, movable cut offs for shutting off communication between said tempering mill and receivers, and horizontally movable plungers for forcing the clay from the said receivers through the dies into the moulds. 4th. The combination, with a tempering mill having one or more discharge apertures for the passage of the tempered clay and one or more movable slides for covering said apertures, of a vertically rotating shaft having tempering arms and cutters thereon, one or more clay receivers, one or more horizontal plungers for forcing the clay through a suitable shaping die and out of the receiver, one or more vertically movable yokes, each having a cutting wire thereon and brick moulds and means for operating the said moulds. 5th. The combination with a clay receiver having a shaping die secured to one end, of an elastic packing introduced between the said receiver and die. 6th. The combination, with a clay receiver having a suitable shaping die secured in the outer end thereof, of a yoke having a cutting wire secured thereto, the latter being adapted to move on and over the outer face of the said die. 7th. The combination with a tempering mill having apertures in the bottom thereof for the passage of the tempered clay, of a vertically revolving shaft provided with tempering arms having cutters thereon and laterally extending arms with pressers or feeders secured on their outer end for forcing the tempered clay through the apertures. 8th. The combination, with the tempering mill having one or more apertures in the bottom thereof and slides for covering the said apertures, of receiving chambers, a movable plunger working in said chamber, cutting dies secured to the outer end of said chamber and a wire cutter adapted to work over the face of the said cutting dies. 9th. The combination, with the tempering mill and receiving chamber having cutting dies secured to its outer end, of a yoke carrying a cutting wire, the said yoke loosely connected to and adapted to move the said cutting wire over the face of the said cutting die. 10th. The combination, with the tempering mill having apertures for the passage of the clay and a rotary shaft provided with presser or feeder arms thereon, of vertically movable slides adapted to hold the clay, while the presser arms force it through the apertures. 11th. The combination, with the receiving chamber and cutting die, of a yoke adapted to move on said cutting die and provided with a cutting wire. 12th. The combination, with a receiving chamber and cutting die, of a yoke adapted to move on said cutting die, a wire rigidly secured at one end of the said yoke while the opposite end of the same is wound on a

drum, which latter retains the wire at any desired degree of tension by means of a pawl and ratchet. 13th. The combination, with the L-shaped arm provided with an adjustable holder for holding the mould in position. 14th. The combination, with the tempering mill B, receiver B and dies M, of the shaft C, cam P, yoke O, arm Q, holders R and mould L. 15th. The combination, with the mill B, receiver D and dies M, of the shaft C, cam P, yoke O, arm Q, holder R, mould L, bell crank T, yoke U, wire W.

**No. 14,531. Improvement on Draft Adjusting Devices for Harness.** (*Perfectionnement des harnais pour régulariser le tirage.*)

James Hugill, Woodbridge, Cal., U.S., 3rd April, 1882; for 5 years.

*Claim.*—The box A containing the spring actuating block E, in combination with the notched or corrugated bar G secured to the harness, and passing through an opening in the front of the box A.

**No. 14,532. Improvements in Cigarette Machines.** (*Perfectionnements aux machines à cigarettes.*)

Parley P. Pratt and Matthew G. Raffington, Columbus, Ohio, U.S., 3rd April, 1882; for 5 years.

*Claim.*—1st. A portable device for forming cigarettes, consisting of a mandrel upon which to roll the wrapper, a casing to support the wrapper while being filled, and a tubular mouth-piece or sleeve to clamp the wrapper in the mouth of the casing and permit insertion of tobacco. 2nd. The tubular mouth-piece B adapted in connection with the mandrel, to support the wrapper while the latter is being rolled into cylindrical form and having its end bevelled to facilitate taking up tobacco. 3rd. In combination with a tubular casing to sustain a cigarette wrapper, a tubular mouth piece having a scoop-shaped end to take up tobacco and deliver it into the wrapper. 4th. A portable pocket implement consisting of a casing to sustain a cigarette wrapper, and a stem or mandrel adapted both to compress the tobacco within said casing, and to receive and carry a writing-point, whereby the device is caused to serve both as a cigarette former, and as a writing instrument. 5th. The method of forming cigarettes by rolling the wrapper upon the end of a tube, into cylindrical form, inserting the wrapper so formed into a sustaining casing and then clamping its end, supplying tobacco through the tube, and finally compacting the tobacco to the desired degree.

**No. 14,533. Improvement on the Manufacture of Compressed Fuel.** (*Perfectionnements dans la préparation des agglomérés combustibles.*)

George Walker and Edward W. Rathbun, Deseronto, Ont., 3rd April, 1882; for 5 years.

*Claim.*—1st. The destructive distillation of saw dust in a close retort, to remove the watery acids, and obtain a tarry distillate or substance, and effect the carbonization of the saw dust, then mixing the tar and carbonized sawdust together and compressing the mass, with or without the admixture of other combustible substances, into blocks for fuel. 2nd. As an article of commerce, a block of compressed fuel consisting of carbonized sawdust or charcoal, and tar, with or without the addition of other combustible substances.

**No. 14,534. Improvements on Car Journal Boxes.** (*Perfectionnements aux boîtes à graisse des chars.*)

Thomas S. Phillips, George D. Briggs and Warren E. Miller, Buffalo, N.Y., U.S., 3rd April, 1882; for 5 years.

*Claim.*—1st. The device for holding the lubricant C consisting of the box or receptacle A with side walls *b b*, the rounded out rear end *d d* and the front hinged end *c*, and mounted on suitable springs. 2nd. In combination with an enclosed journal E and a rail road journal box D, the rectangular follower A, for holding the lubricant C in contact with the journal, consisting of the bottom *a*, vertical sides *b b*, extension leather sides *b' b'*, leather end *d d*, hinged front *c* and springs B B.

**No. 14,535. Improvements on Paddle Wheels.** (*Perfectionnements aux roues à aubes.*)

William C. Thompson, Tipton, Penn., U.S., 3rd April, 1882; (Extension of Patent No. 7311)

**No. 14,536. Bag-Holder.** (*Acroche-sac.*)

Edward Collins, (Assignee of John Wagstaff,) Dundas, Ont., 3rd April, 1882; (Extension of Patent No. 1408.)

**No. 14,537. Improvements in Double Cylinder Steam Engines.** (*Perfectionnements aux machines à vapeur à deux cylindres.*)

Henry Monk and William Monk, Hadlow Cove, Que., 4th April, 1882; for 5 years.

*Claim.*—1st. In a double cylinder high and low, or adjustable high pressure engine operated by one valve with steam way L, and the combination of the steam chest and cylinder, which are angled to each other so that they are in direct line with the main shaft together with the fork connecting rod D D, which couples both pistons to one crank. 2nd. The steam port L with the arrangement and combination of steam chest and cylinders.

**No. 14,538. Improvement in Freight Car Doors.** (*Perfectionnement des portes de chars à fret.*)

Herbert H. Hewitt and Francis G. Susemihl, Detroit, Mich., U.S., 3th April, 1882; for 5 years.

*Claim.*—1st. In a freight car having a door seat in a plane within that of the exterior of the side of the car, the combination of a sliding door, an upper guide strap, a lower guide track and shoes connecting the door with said strap and track, the strap and track running in oblique and parallel lines with reference to the size of the car, whereby the door may be drawn obliquely from its seat before being slid open to a position parallel with the side of the car as specified. 2nd. In a freight car, a sliding door combined with supporting and guiding devices consisting of an upper guide strap and a lower guide track, said strap and track running in oblique and parallel lines with reference to the side of the car, and shoes connecting the door with the strap and track, the upper edge of the door being confined between the strap and car and the shoes on the lower edge of the door riding on the guide track, whereby the door is adapted to be opened and closed by lateral and end movement. 3rd. The side of the car A with rabbeted door posts *h h*, the guide track *e* and guide strap *f* attached to side of car A, in combination with the door D provided with the shoes *a b c d*. 4th. The side of car A having the guide track *e* formed with notch *m*, in combination with the door D provided with the shoe *b*. 5th. The side of car A having the guide strap *f* formed with notch *n*, in combination with the door D provided with the shoe *e*.

**No. 14,539. Improvements on Tire Machines.** (*Perfectionnements aux machines à baulages des roues.*)

George R. Libby, Lehigh, Iowa, U. S., 5th April, 1882; for 5 years.

*Claim.*—1st. In a tire bending device having removable rolls F, of any desired size, in combination with the main permanent roll F and all working over a depression having a slotted opening *o*. 2nd. The sliding piece I having a removable punch *i* and combined with lever E and the intermediate mechanism, and also with guard plate G having removable face *m*. 3rd. In a tire machine having shears G cutting against the edge *g*, the table or bed A and punch I in connection with block *m m*, bending rolls F F and tire shrinker E E worked as explained, all constructed and combined in a single machine. 4th. The tire upsetter consisting of sliding pieces B mounted on ways *b* in openings *a* of table or bed A, on which pieces B are pivoted the movable clamping jaws E having serrated faces, in combination with shaft C, links D and vertical crank shaft *e*.

**No. 14,540. Improvements on Car-Coupling.** (*Perfectionnements aux attelages des chars.*)

Jacob H. Hunt and Frederick W. Jones, Spartenburgh, S. C., U. S., 1882; for 5 years.

*Claim.*—1st. In a draw-head formed in two parts, which are united upon a vertical central longitudinal line and are adapted to yield to lateral pressure and release the link. 2nd. The draw-head A divided longitudinally and vertically into two sections with the lines of division at the upper and lower sides of said head in front of the coupling pin B extended from relatively opposite sides of the slot *a*. 3rd. A draw-head provided with a semispherical socket and vertical longitudinal groove, in combination with a coupling pin which has a spherical head that is contained with said socket, whereby said coupling pin is adapted to swing in a line with the draft. 4th. In combination with the draw-head A provided with the recess *a*, slot *a* and semispherical recess *a*2, the coupling pin B having the segmental form shown and provided with the spherical head *b*. 5th. In combination with a draw-head, a plate or block adapted to drop in the rear of and to hold the link in longitudinal position, when said link is engaged by the coupling pin. 6th. The car-coupling in which the parts are constructed and relatively arranged in the manner and for the purpose shown.

**No. 14,541. Improvements on Double Furrow Ploughs.** (*Perfectionnements aux charrues faisant double raie.*)

George McSherry, Ingersoll, Ont., 5th April, 1882; for 5 years.

*Claim.*—The ratchet lever and arc B C, connecting rod D, bent arm E and wheel G, when applied to a double furrow plough.

**No. 14,542. Improvement on Gas Engines.** (*Perfectionnements aux machines à gaz.*)

Richard T. Jeffery, Toronto, Ont., 5th April, 1882; for 5 years.

*Claim.*—1st. The pin *o* with the arrangement of steps *r* and *t*, the latch cam *n*, bolt P and spring *g*, in combination with the hub H and sleeve I. 2nd. The combination of the gas valve *m* in the valve cover C. 3rd. The combination of base *a*, cover *b*, needle *i*, collars *c c*, spring *k*, rubber collar *j*, nipple *d*, adjuster *e*, drip *f*, drip pan *h* and rock arm *w*, with the modes of operating shown, as a single and with duplicate working parts shown as a double automatic adjustable lubricator.

**No. 14,543. Improvements in Car Door Fasteners.** (*Perfectionnements aux fermetures des portes de chars.*)

Richard H. Briggs and James H. Dougherty, Whistler, Ala., U. S., 5th April, 1882; for 5 years.

*Claim.*—1st. The combination of the horizontal latch D, the latch frame G and swinging pivoted locking latch and the frame being provided with the perforated bars or flanges in which the lock or sealing wire is secured. 2nd. The combination of the horizontal latch D, the latch frame G and the swinging locking latch having a notch P in its

inner edge for the end of the latch D to catch in, whereby the latch D is held in a raised position, so that both hands can be applied to opening the door.

**No. 14,544. Improvements on Churn Powers.**  
(*Perfectionnements aux mécanismes des barattes.*)

Thomas W. Hogsett, Edray, W. V., U.S., 5th April, 1882; for 5 years.

*Claim.*—1st. The combination with the dasher staff B of the lever D, the rod G pivoted thereto, the longitudinally and vertically adjustable lever L, the spring A and the table E.

**No. 14,545. Improvements in the Manufacture of Hydraulic Cements.**  
(*Perfectionnements dans la fabrication des ciments hydrauliques.*)

William H. Hughan, Winnipeg, Man., 5th April, 1882; for 5 years.

*Claim.*—1st. The process of manufacturing hydraulic cement by amalgamating calcareous mud or clay with peat, human excreta, animal manure or garbage, or like material (which, when burnt, will yield salts and phosphates) with water to a plastic state in a pug or other suitable mill, then forming the mass into blocks or bricks, then drying said blocks or bricks and calcining them to ashes for use as a cement. 2nd. In hydraulic cement produced by the calcination of an admixture of calcareous clay or mud, garbage, excreta, manures, peat (or other like refuse which, when burnt, will yield phosphates and salts) prepared in the manner set forth.

**No. 14,546. Improvements on Cultivators.**  
(*Perfectionnements aux cultivateurs.*)

David O. Everest, Pine Grove Mills, Mich., U. S., 5th April, 1882; for 5 years.

*Claim.*—1st. In combination with a supporting frame F, a spring having its two free ends adapted to admit of an attachment thereto, of a ploughing or cultivating tooth or blade. 2nd. In combination with the frame of a harrow plough or cultivator, a spring attached between the free end to said frame, the free ends of said spring adapted for the attachment thereto of a plough blade or cultivating tooth. 3rd. The curved spring E attached at a point between its ends to a suitable frame, in combination with the link D or its equivalent and a plough blade or cultivator tooth.

**No. 14,547. Improvements on Ear Mufflers.**  
(*Perfectionnements aux garde-oreilles.*)

Chester Greenwood, Farmington Falls, Me., U.S., 5th April 1882; for 5 years.

*Claim.*—1st. The lugs G having a long leg H, springing against the body A and having an inwardly turned point engaging with a depression I in the body A, whereby the two parts are automatically locked. 2nd. In combination with the frames C having bends or angles  $\alpha \alpha$ , the link I bridging the opening formed thereby.

**No. 14,548. Improvements on Egg Beaters.**  
(*Perfectionnements aux verges à œufs.*)

Charles Deis, Buffalo, N. Y., U. S., 5th April, 1882; for 5 years.

*Claim.*—A baker's egg, sugar and cake beater composed of, and combining the shaft *d* having wire whips *i i i* thereon, operated by cog wheels *f g* and crank *h*, the box A A' with rounded bottom *a* and a water space *c* between the outer wall or case *b*, and inner wall and bottom *b*.

**No. 14,549. Improvements on Car Axle Boxes.**  
(*Perfectionnements aux boîtes à graisse des chars.*)

George E. Yost, Theresa, N. Y., U. S., 5th April, 1882; for 5 years.

*Claim.*—1st. In combination with the journal A and box B, the frame *a* provided with ears *h b*, the spring arms *e e* fixed to said ears and extended diagonally across the journal box B, and carrying respectively at opposite sides of the journal, the mandrel *m*, and the rollers *r* journaled on said mandrel and provided with the endless chain *c*. 2nd. The combination, with the frame *a* supporting the rollers *r r*, with their lubricating chain *c*, of the bail formed of sections *d d* and *f*, the latter of which is provided with the diagonal bars *f f* across the front opening of the journaled box B. 3rd. The yielding material D applied as described.

**No. 14,550. Improvements on Tube Cleaners.**  
(*Perfectionnements aux nettoyeurs des bouilleurs.*)

John Harley, Bothwell, Ont., 5th April, 1882; for 5 years.

*Claim.*—The spoon A constructed with a dovetailed groove D and provided with scraper E, in combination with the coil spring B.

**No. 14,551. Improvements in Gate Hangings.**  
(*Perfectionnements aux pentures des barrières.*)

William G. Alexander, Oskaloosa, Iowa, U. S., 5th April, 1882; for 5 years.

*Claim.*—In a gate hanger, the angle plate C having pivoted thereto the bolt *e*, with lug *f*, in combination with the disk D formed with slot *i* and shoulder *d*, the rollers E and disk F formed with lugs *m*.

**No. 14,552. Improvements on Churns.**  
(*Perfectionnements aux barattes.*)

John Bennett, Lucknow, Ont., 5th April, 1882; for 5 years.

*Claim.*—1st. A working dash so constructed and operated that when

the valves are closed it will contain no openings for the passage of cream through it, and will correctly fill the dash chamber in the churn. 2nd. The division of the space within its wall into two chambers (except as at *r*) by means of a partition, in combination with a dash so fitted and operated that it will push the cream from one chamber through the other. 3rd. A sliding and removable partition so disposed in the churn frame, that there will be beneath and in the rear of it, a space sufficient for the passage of the cream impelled by the dash, said partition having an opening through its upper end, and guarded by a chute plate placed at a short distance in the front of the opening, leaving a space between, for the passage of the cream from the supplemental chamber to the dash chamber. 4th. The partition slide O with semi-circular convex edges and furnished with the opening  $\alpha$ , cap *u*, cleat *p*, chute plate L and curved cleats *v v*, in combination with the grooved churn frame, and churn cleat *v* on which it finds a seat. 5th. In combination, the churn staff *f*, dash head *h*, sides *i i*, valves *j j*, stops K K and K'. 6th. The churn staff *f*, dash head *h h*, sides *i i*, valves *j j*, stops K K and K', in combination with the operating lever *m*, churn walls *a* and the sliding partition *o*. 7th. The sheet metal bottom plate *b* with a rim, in combination with the churn frame and bottom board *c*. 8th. The inclined cover for the purpose described.

**No. 14,553. Improvements on Stirrup Fastenings.**  
(*Perfectionnements aux assemblages à crémaillère.*)

William H. Kirby, Warsaw, Ky., U. S., 5th April, 1882; for 5 years.

*Claim.*—A stirrup fastening or angular band having two sets of opposite rectangular loops arranged in planes at right angles with each other, and consisting of straps having longitudinal grooves or ridges, and broad bearing arms connecting said straps.

**No. 14,554. Improvements on Reaping and Mowing Machines.**  
(*Perfectionnements aux faucheuses-moissonneuses.*)

Frederick J. Hazard and Thomas Fuller, Belleville, Ont., 5th April, 1882; for 5 years.

*Claim.*—1st. The combination of the straps P, pins Q and q, rubber R, tube bearings S and elongated guards N, with the finger bar G and knife bar O producing the draw-and-push cut. 2nd. The combination, in a reaping or mowing machine, of a long stroke with the draw-and-push cut.

**No. 14,555. Improvements on Curing Rubber Coated Fabrics.**  
(*Perfectionnements dans la préparation des tissus caoutchoutés.*)

Henry W. Burr, Cambridgeport, Mass., U. S., 5th April, 1882; for 5 years.

*Claims.*—1st. The improvement in the art of curing rubber coatings applied to fabrics, by subjecting them to the action of the electric light. 2nd. The art of curing rubber coatings on fabrics by subjecting said coating to the action of the electric light, whilst said fabric is in motion through the field of illumination of such light. 3rd. The manufacture of rubber-coated fabrics, by applying the rubber coating in successive layers while the fabric is moving through the coating machine, subjecting such coating to the action of the electric light during such movement, and curing the rubber by means of said light before removal from said machine. 4th. An apparatus for curing rubber coatings on waterproof fabrics consisting of one or more electric lights and mechanical means for moving the rubber-coated fabric through the field of illumination. 5th. The frame, the carrying rollers B B' adapted to support and move the fabric C, and the calender rollers D D', in combination with the electric lights L and suitable reflectors N. 6th. The combination of the electric lights L and the glass shield M.

**No. 14,556. Method of Keeping Milk, Cream and Butter.**  
(*Méthode de conservation du lait, de la crème et du beurre.*)

James F. Ferguson, Essex, Vt., U. S., 5th April, 1882; (Extension of Patent No. 7422.)

**No. 14,557. Improvements on Overalls, Pantaloon, &c.**  
(*Perfectionnements aux pantalons de voyage et autres, &c.*)

Augusta Feder, Lee S. Warner, Ludwig A. Warner, Edmund Jellinek and Ludy A. Warner. (Assignees of Simon Feder,) Buffalo, N. Y., U. S., 5th April, 1882; for 5 years.

*Claim.*—1st. In overalls and analogous articles, a fly and the front portion of said overalls, made integral, or all cut from one and the same piece, thereby forming a continuous fly and a seamless crotch. 2nd. In overalls, the leg portions *a* and *a'* and the continuous strip portions *f f'*, all cut from one and the same piece of material, and adapted to be folded as described.

**No. 14,558. Improvements in Machinery for Weaving Cane.**  
(*Perfectionnements aux machines à tresser le jonc.*)

John S. Ford, Henry W. Johnson, Reuben A. Hitchcock, Henry H. Ford, Sarah W. Ford and Mary E. Ford, Michigan City, (Assignees of Hans E. Tylander, Chicago,) Ill., U. S., 8th April, 1882; for 5 years.

*Claim.*—1st. In a loom, a roller having teeth set at uniform distances around its periphery, for a part of its length, in combination with a spring pawl, arranged to lock between the teeth by its own elasticity, mechanism under the control of the operator for drawing the pawl from between the teeth, a weight arranged to turn the roller

whenever the pawl is unlocked, the beater or sley, and cords connecting the roller with the beater or sley and arranged to wind around the roller, when it is turned by the weight. 2nd. The gauge roller J, provided with the pins  $\beta$  and weighted cord  $\gamma_6$ , the spring pawl  $\gamma_2 \gamma_3$ , the treadle J<sub>1</sub>, the supporting spring  $k$ , the rods  $\gamma_4 \gamma_5$ , the beater H and the connecting cords  $l$ . 3rd. A stretcher to hold the web during the process of finishing, and roll it up when finished, consisting of two corresponding pairs of standards, two rollers, each supported by one pair and provided at one end with a set of teeth on its periphery, a pawl on each pair of standards arranged to engage with the tooth periphery, mechanism for holding the pawls disengaged with the tooth periphery, supporting the edges of the web, and brackets projecting from the standards for supporting the rails. 4th. The standards M M<sub>1</sub>, the rollers NN<sub>1</sub>, toothed at  $u$  and  $u_1$  and provided with cranks  $u_2$  and  $u_3$ , the spring pawl  $u_4$  and eccentric disk  $u$ , rails  $u_5$  and supporting brackets attached to the standards. 5th. The standards A C, roller B, belt  $b_1$ , cord  $b_2$ , rod  $b_3$  adjustable in rests  $b_4$ , roller D, provided with the sheet of canvas  $d$  and weighted cords  $d_1$ , pulleys  $d_3$ , roller E, adjustable set in the standards A, spring  $e$ , harness F F<sub>1</sub>, treadles F<sub>2</sub> F<sub>3</sub>, pivoted beater H, toothed gauge roller J provided with the weighted cord  $\gamma_6$ , spring paws  $\gamma_2 \gamma_3$ , rods  $\gamma_4 \gamma_5$ , treadle J<sub>1</sub>, cords  $\gamma_1$  and rollers I provided with the crank  $i$  and ratchet wheel  $i_1$ . 6th. The standards A C, roller B, belt  $b_1$ , cord  $b_2$ , rests  $b_4$ , rod  $b_3$  adjustable therein, roller D provided with the sheet of canvas  $d$  and weighted cord  $d_1$ , pulleys  $d_3$ , roller E, adjustable set in the standards A, spring  $e$ , harness F F<sub>1</sub>, treadles F<sub>2</sub> F<sub>3</sub>, pivoted beater H, toothed gauge roller J provided with the weighted cord  $\gamma_6$ , spring paws  $\gamma_2 \gamma_3$ , rods  $\gamma_4 \gamma_5$ , treadle J<sub>1</sub>, cords  $\gamma_1$ , rollers I  $k_2$   $u_2$ , standards M M<sub>1</sub>, rollers NN<sub>1</sub>, toothed and provided with cranks and adjustable pawls, adjustable brackets O and rails  $u_5$ . 7th. A crossing mechanism consisting of a frame, a crossing blade or needle, the main body of shaft, of which is straight and arranged to revolve in said frame, and a system of wheels and shafts set in the frame, whereby the blade is made to revolve by the operator at the same time that he is pushing it through the fabric. 8th. A crossing mechanism provided with a blade or needle having a straight main body or shaft, and bent and perforated at the forward end, in combination with mechanism controlled by the operator, for causing the blade to revolve during its passage through the fabric. 9th. The frame Q, handle R, revolving shafts  $s$   $s_1$ , gear wheels S S<sub>1</sub>, driving wheel S<sub>2</sub> and blade P, affixed to the shaft  $s$  and provided with the bent and flattened tip  $p$  and the eye  $p_1$ .

**No. 14,559. Improvements on the Construction of Buildings.** (*Perfectionnements dans la construction des maisons.*)

James M. Peck, Flushing, N. Y., U. S., 8th April, 1882; for 10 years.

*Claim.*—1st. The siding panels composed of grooved and tongued boards connected by battens, rabbeted upon their edges so as to form projecting tongues, in combination with upright frame timbers, grooved to receive said tongues. 2nd. The portable building composed of the rabbeted and grooved frame timbers, siding panels composed of grooved and tongued boards connected by battens rabbeted upon their outer edges, to form projecting tongues, and the roof composed of grooved boards or battens connected by rabbeted boards having bevelled upper sides leading downward and away from the joints, the several parts connected and secured together. 3rd. A siding or roof composed of a series of sheets or panels, each of which is constructed of a number of grooved and tongued boards O secured together by battens P. 4th. In a roof for portable or permanent buildings, the combination with the ridge X and roofing boards  $h$ , of the cap Y ploughed out at an angle adapted to fit the ridge X, roofing boards and battens.

**No. 14,560. Improvements on Adjustable Seats for Carriages.** (*Perfectionnements aux sièges mobiles pour les voitures.*)

John Moon, Amherst, N. S., 8th April, 1882; for 5 years.

*Claim.*—1st. The combination, with the box A of a vehicle or sleigh, of a seat H bearing on removable side flaps I, and a rear seat of larger size sliding to mask the seat H when the flaps I are removed. 2nd. The combination, with the box A of a vehicle or sleigh, of the front seat H having sides C provided with removable flaps I and hinged at the front D to overturn, and a rear seat J of larger size, sliding on the edge of the box and moving forward to encompass the sides C of the front seat, when the flaps I are folded down and the seat H overturned, whereby when returned the seat will nest in the seat J.

**No. 14,561. Improvements in Bricks.**

(*Perfectionnements dans les briques.*)

George Yon, Montreal, Que., 8th April, 1882; for 5 years.

*Claim.*—A wall constructed of the combined bricks A, each having projections  $a$  and flat side  $a_1$  opposite to said projections, bricks B each having recesses  $b$  and a flat side  $b_1$  opposite to said recesses, and bricks C having each a projection  $c$  and a flat side  $c_1$  opposite to said projection.

**No. 14,562. Improvements on Safe Combination Locks.** (*Perfectionnements aux serrures à combinaison pour les coffres-forts.*)

Henry Lemmon, Guelph, Ont., 8th April, 1882; for 5 years.

*Claim.*—1st. In combination with the combination lock A of a safe, and a register spindle B, two or more gear wheels  $a$   $c$   $d$  or their equivalents, as a crank to separate yet connect the two, and operate the one by the other. 2nd. In combination with the block A and plate D, the automatic mechanism to operate the plain D and locking bolts C C consisting of the ratchet wheel K on the spindle  $g$ , pawl  $i$ , spring  $j$  on the upper part of the plate D. 3rd. In combination with the lock A and plate D, the ratchet wheel E, pawl H, connecting rod I, pulleys  $k$   $l$ , friction wheel  $o$ , dog J. 4th. In combination with the pawl H and dog J, the screw socket  $n$  containing the friction wheel  $m$  on the rod I, to adjust the length of the same. 5th. In com-

ination with the plate D, the slit L through which the spindle  $g$  passes.

**No. 14,563. Improvements on Apparatus for Lighting Gas by Electricity, Part of Which is Applicable to Other Electrical Appliances.** (*Perfectionnements aux appareils à allumer le gaz par électricité, en partie applicables aux autres appareils électriques.*)

Charles L. Clarke and John Leigh, Manchester, Eng., 8th April, 1882; for 5 years.

*Claim.*—1st. The construction of an electric gas lighting apparatus in a tubular or cylindrical form in three parts, by the combination of (1) a battery (2) an induction coil condenser and contact breaker (3) a lighting tube with terminal points, each of the parts being so constructed that the requisite metallic connections are established by simply screwing the parts together end to end. 2nd. The peculiar construction of the contact breaker, whereby each pressure on the button or pusher only causes two or three vibrations sufficient to develop an inducted electric spark of a duration long enough to light a jet of gas. 3rd. The peculiar construction of the interchangeable battery, whereby, when the strength of the battery has become exhausted, it can be removed by unscrewing and another substituted. 4th. The use of the exciting fluid above named, in connection with a battery of this kind.

**No. 14,564. Process for Preparing Iron and Steel used for the Manufacture of Nails, Tacks, Brads and Shoe Nails, &c.** (*Procédé pour préparer le fer et l'acier employés dans la fabrication des clous, brochettes, clous à parquet et caboche, &c.*)

Seth R. Foster, St. John, N. B., 8th April, 1882; for 5 years.

*Claim.*—The process of preparing iron and steel for cutting into nails, tacks, brads and shoe nails, by the application of lime or any pigment of moisture of pigments, in solution with water to the surface of it and letting it dry thereon, for the purpose of preventing the scale on the iron or steel from wearing into the knives, dies and other tools of the machine, while cutting.

**No. 14,565. Improvements on Cultivators.** (*Perfectionnements aux cultivateurs.*)

Gottlieb Bettschen, Wilmot, Ont., 8th April, 1882; (Extension of Patent No. 8115.)

**No. 14,566. Improvements on Car-Couplings.** (*Perfectionnements aux accouplages des chars.*)

George F. Bond, Troy, N. Y., 11th April, 1882; for 5 years.

*Claim.*—1st. The combination, with the draw-head A provided with an aperture B in the bottom, of the cam block C, the cam block being mounted on a transverse shaft D, extending to the side of the car and provided with handles G at the ends, and of guide plates F provided with guide slots E for the shaft D. 2nd. The combination, with the draw-head A provided with an aperture B in the bottom, of the swinging cam block C in the aperture, the shaft D, the handle G, the connecting bar N and the angular lever M pivoted on the top of the car. 3rd. The combination, with the draw-head A provided with an aperture B in the bottom, of the swinging cam block C provided with an inner end with a transverse check ridge I. 4th. The combination, with the draw-head A provided with an aperture B in the bottom, of the swinging cam block C provided at the inner end with a transverse check ridge I, and at the outer end with a guide ridge H extending from top to bottom.

**No. 14,567. Improvements in Paper Files.** (*Perfectionnements aux serre papiers.*)

George G. Nanerth, Cincinnati, Ohio, U. S., 11th April, 1882; for 5 years.

*Claim.*—1st. An outer case provided with the racks  $d$   $e$ , the pins  $a$  and the cover D provided with the lugs  $h$  and notches F. 2nd. An outer case provided with the racks  $d$   $e$ , and the cover D provided with the lugs  $h$  fixedly attached to the cover and arranged in such a manner that the lugs are caused to engage with or be detached from the racks by sliding the cover horizontally. 3rd. The combination of the cover D provided with lugs  $h$ , and the case provided with the racks  $d$  and  $e$ , two or more of said racks being provided with guards  $g$ . 4th. The combination of the cover D provided with the lugs  $h$ , the notches F and the case provided with pins  $a$ , and the racks  $d$ , the front edge of the racks  $d$  being provided with guards  $g$ . 5th. The combination of the cover D provided with lugs  $h$ , the notches F and thumb hole H, and the case provided with pins  $a$ , and racks  $d$ , the front edge of the racks  $d$  being provided with guards  $g$ . 6th. In combination with a filing case, the rack provided at or near its lower end with a lug  $f$ . 7th. A rack for a filing case dovetailed and provided at its lower end with a lug  $f$ . 8th. A rack for a filing case dovetailed as shown and provided with guard  $g$ . 9th. A rack for filing case provided at or near its lower end with a lug  $f$ , and having guard  $g$ . 10th. The combination of the cover D provided with lugs  $h$ , and the racks  $d$  and  $e$  dovetailed, the lower ends of said rack being provided with lugs  $f$ , said racks being secured in dovetailed recesses in the sides of the case. 11th. A rack for a filing case provided with a guard  $g$  and at its lower end with a lug  $f$ , the rack being dovetailed. 12th. The combination of the cover D provided with lugs  $h$ , and the case provided with the racks  $d$   $e$ , said racks being dovetailed and retained in dovetailed recesses in the ends of the case.

**No. 14,268. Improvements on Vehicle Wheel Scrapers.** (*Perfectionnements aux grattoirs pour les roues des voitures.*)

Frederick C. Mercer, Winnipeg, Man., U.S., 11th April, 1882; for 5 years.

*Claim.*—A mud or clay scraper for which wheels composed of the segmental and rectangular-shaped channel A having the opening *a*, the shank B having formed in it the slot *b*, the set screw *c* and the sustaining bar C.

**No. 14,569. Improvements on Wet Pulverizing Machines.** (*Perfectionnements aux machines à moudre par la voie humide.*)

Stephen P. M. Tasker, Philadelphia, Penn., U.S., 11th April, 1882; for 5 years.

*Claim.*—1st. In combination with a casing containing revolving disks and a ball carried thereby, screens applied to the sides of the casing so as to completely encase the batter. 2nd. In combination with screens encasing the sides of said casing, discharging chutes. 3rd. In combination with a casing, semi-circular removable wearing plates. 4th. In combination with the disks, peripheral bevelled plates removably applied thereto. 5th. In combination with the disks of a pulverizing machine, take-ups or material returning devices. 6th. In combination with the sleeve journals clutch lugs or kindred devices. 7th. In combination with the disks, lug seats formed in the rear face thereof. 8th. In combination with sleeve journals revolving upon and in connection with a driving shaft, two disks surrounding said shaft and fitted to rock upon the sleeve journals a spiral spring surrounding said shaft and abutting between the facing surfaces of the disks and clutch devices between the disks and sleeve journals operating upon the rear faces of the disks.

**No. 14,570. Improvements on Car Trucks.** (*Perfectionnements aux trains des chars.*)

Joseph N. Smith, New York, N. Y., U.S., 11th April, 1882; for 5 years.

*Claim.*—1st. In a car provided with two trucks, one under each end of the car body and each truck pivoted at its end to the end of the car body and having its free end arranged to swing under the body of the car whereby, whichever end of the car be foremost, the wheels of the front truck will be behind the pivot point, and the wheels of the back truck in front of the pivot point. 2nd. The evener provided with sockets to receive the springs. 3rd. The evener provided with sockets to receive the springs and provided with a socket at the centre to receive a ball on the housing or truck frame. 4th. The combination, with the housing and pedestals, of the socketed evener, the springs secured in sockets in the same, the axle boxes and the saddles of the said boxes having convex tops to receive the springs. 5th. The combination, with the housing and pedestals, of the socketed evener mounted in the housing, the laminated springs secured in sockets in the evener, the axle boxes, the saddles removable from said boxes and provided with convex tops for the springs to rest on, and the clips which secure the springs to the saddles. 6th. The combination, with the truck frame, of the housing provided with side plates *g* and recesses or pedestals for the axle boxes, the evener *g*, springs *h* secured thereto, the axle boxes and their saddles. 7th. The evener provided with sockets to receive the springs with cams *p*. 8th. The evener provided with sockets to receive the springs with cams *p* and with pins or bolts *o*. 9th. The stirrup straps consisting of the stretcher I with a lip *r*<sup>1</sup> and a hole to receive a pin on the strap I, and the said strap provided with a pin *r*<sup>2</sup>. 10th. The combination of the elastically actuated bolt *s*, the button *u*, the strap I provided with pin *r*<sup>3</sup> and bracket *r*<sup>5</sup>, and the stretcher I provided with a lip *r*<sup>1</sup> and a hole to receive the pin *r*<sup>3</sup>.

**No. 14,571. Churn and Cream Pail.**

(*Baratte garde-crème.*)

Jacob F. Grobb, Beamsville, Ont., 11th April 1882; for 5 years.

*Claim.*—1st. Tee combination of a pail A and an adjustable dasher gate H. 2nd. In combination with the pail A, the vertical side strips *G* upon which the grooved cross bars *a b* of the gate H slide. 3rd. In combination with the gate H, a spring I to hold it down during the operation of churning. 4th. The combination of the pail A, dasher gate H, spring I, grooves *d d* and strips *G G*.

**No. 14,572. Improvements on Lemon Squeezers.** (*Perfectionnements aux pressoirs à citron.*)

William B. Dean, New York, N. Y., U.S., 11th April, 1882; for 5 years.

*Claim.*—1st. The combination, with the upper handle E, of the lower handle G running parallel therewith and having legs or standards H secured at its extreme end, whereby, in squeezing a lemon, the power of compression by the hand may be combined with pressure exerted upon the upper handle. 2nd. The combination of the legs I H with the lower handle G, provided with a frame A, the juice cup B, the removable die C and the hinged handle E provided with a stationary die D. 3rd. The combination, with the frame A having ring or shoulder F, of a juice cup B forming part of the squeezer and supporting a perforated die, whereby the juice will be caught as it is expressed from the lemon and re-strained through the die by inverting the squeezer. 4th. In a lemon squeezer, the removable bottom die C constructed with projecting cutting edge P around its top, whereby the pulp is collected above the die. 5th. The combination, with the frame A having ring F, of the juice cup B having shoulders L M and the separate die C, whereby the said cup and die are connected and supported by the said frame. 6th. The arrangement and combination, with the frame A having the lever E fulcrumed thereto, of the removable or adjustable juice cup B.

**No. 14,573. Improvements on Cheese Hoop Followers.** (*Perfectionnements aux presses à fromage.*)

David H. Burrell and Walter W. Whitman, Little Falls, (Assignees of Goswin Castle, Ava.) N. Y., U. S., 11th April, 1882; for 15 years.

*Claim.*—1st. As a new article of manufacture, a follower for cheese hoops having a packing ring composed of a metallic wire, or a rope or cord of fibrous material enclosed in a suitable covering strip. 2nd. The combination, with a cheese hoop follower having a bevelled edge, of a packing ring composed of a strip of cloth canvas or other material enclosing a metallic wire, or a rope cord or coil of suitable material. 3rd. A follower for cheese hoops having an expandible packing ring composed of a roll or coil of fibrous material, enclosed in a suitable covering strip. 4th. The combination, with the follower A having bevel *a*, of the expandible packing ring B composed of a strip of cloth, canvas, or other suitable material *b*, having a projecting hem *b*<sup>1</sup> and enclosing a coil or cord C of fibrous material.

**No. 14,574. Improvements in Carriage Tops.** (*Perfectionnements aux soufflets des voitures.*)

Daniel Conboy, Uxbridge, Ont., 11th April, 1882; (Reissue of Patent No. 10,575.)

*Claim.*—1st. Seat irons fastened to the seat of a carriage or buggy and provided with horizontally placed and threaded extensions, extending outwardly from the seat. 2nd. Seat irons fastened to the seat of the carriage or buggy and provided with threaded extensions, in combination with the seat rail or iron supporting the buggy or carriage top. 3rd. Seat irons provided with adjusting nuts, in combination with a seat rail or rails having perforated or slotted lugs, arranged to receive the horizontal extension of the seat iron. 4th. The combination, with the seat and cover of vehicle, of sectional adjustable seat rails, each provided with a back extension not rigidly connected to the seat but designed to receive and hold in position the back quarters or stays of the top or cover. 5th. The combination of the seat rails D D, brace F and the back slat iron E, provided with the stop E<sup>1</sup> or its equivalent. 6th. In a carriage or buggy having attached to its seat, seat irons extending outwardly from the seat, the combination of a seat rail or rails pierced or perforated to receive the horizontal extensions of the seat iron. 7th. In a carriage or buggy provided with a top or cover, the combination of seat rails D situated on either side of the seat and having the back end of each bent around the back of the seat, to receive and hold in position the back quarters or stay of the top or cover.

**No. 14,575. Improvements in the Manufacture of Woven Fabrics.** (*Perfectionnements dans la fabrication des tissus.*)

Samuel W. Martin, Springfield Ohio, U. S., 11th April, 1882; (Extension of Patent No. 7357.)

**No. 14,576. Improvements on Car-Couplers.** (*Perfectionnements aux accouplages des chars.*)

Harvie Gladwin, Halifax, N. S., 11th April, 1882; for 5 years.

*Claim.*—The combination, with the draw-head A, of the trigger C and locking pin D.

**No. 14,577. Improvements on Telephonic and Telegraphic Signalling Apparatus.** (*Perfectionnements aux appareils téléphoniques et télégraphiques à signaux.*)

Alfred C. Brown and Henry A. A. Saunders, London, Eng., 11th April, 1882; for 15 years.

*Claim.*—1st. The combination, in a telephonic or telegraphic call apparatus, of (1) a step by step or clock mechanism, controlled by pulsations in the line current and capable of being thus set from a distant station to a position in which alone the telephone or telegraph instrument is in effective connection with the line wire, (2) a key or contact maker by which such pulsations may be produced, (3) a locking device which renders the key inoperative, as soon as the clock is moved from its zero point by an incoming signal. 2nd. The combination of a telephonic or telegraphic circuit through which a current normally flows, and a series of step by step, or clock mechanism actuated by breaking and making the circuit and operating to put the telephone or telegraph instrument into effective connection with the line wire. 3rd. The combination of a telephonic or telegraphic circuit on which are opposed batteries, and a series of step by step, or clock mechanisms actuated by putting the line to earth at any station on the circuit, and operating to put the telephone or telegraph instrument into effective connection with the line wire. 4th. The combination of the parts H K L.

**No. 14,578. Improvements on Weighing and Lifting Devices.** (*Perfectionnements aux machines à lever et peser.*)

Alexander Arnot, Lexington, and Warren Winterskein, Peck, Mich., U. S., 11th April, 1882; for 5 years.

*Claim.*—1st. A lifting and weighing device, as described and consisting of a pivoted frame provided with devices for holding the object to be lifted, and with a sliding weight block. 2nd. The combination, with a pivoted lifting device, of a spring balance provided with devices for holding the object to be lifted and weighed. 3rd. The combination, with a pivoted lifting frame, of a sliding weight block and devices for moving and adjusting the same on the frame. 4th. The combination, with a pivoted lifting frame, of a sliding weight block, devices for moving and adjusting the same, and of anti-friction rollers on the weight block. 5th. The combination, with the standards A, of the shaft E, the lifting frame D and the sliding

weight block H, provided with a groove V. 6th. The combination, with the pivoted frame D, of the weight block H, the sliding rack J attached to the weight block, the cog wheel L engaging with the rack J, and of devices for rotating this cog wheel L. 7th. The combination, with the pivoted frame D, the sliding weight block H, the rack J, the cog wheel L, the crank arm M, the rod N and the crank handle O. 8th. The combination, with the pivoted lifting frame D, of the cross bar P, a spring balance contained in a casing Q on the bar P, and the grapples T attached to the spring balance.

**No. 14,579. Improvements in Glass Presses for the Manufacture of Insulators.** (*Perfectionnements dans les presses à verre pour la fabrication des isoloirs.*)

Robert Hemingray, Covington, Ky., U. S., 11th April, 1882; for 5 years.

*Claim.*—1st. The combination of the standard A, bracket B, spindle-carrier B<sub>1</sub>, pinion C, handwheel C<sub>2</sub>, chain F and weight F<sub>1</sub>. 2nd. The spindle-carrier B<sub>1</sub>, in combination with the spindle D, handwheel D<sub>2</sub>, chain F and swivel e. 3rd. The spindle-carrier B<sub>1</sub> provided with head E<sub>1</sub>, in combination with the spindle D provided with shoulder d and the handwheel D<sub>2</sub>. 4th. The combination of the spindle-carrier B<sub>1</sub> and removable head E<sub>1</sub>, and the spindle D provided with enlarged portion D<sub>1</sub>, screw E and the handwheel D<sub>2</sub>. 5th. The combination of the spindle D, chain F, weight F<sub>1</sub> and the spindle-carrier B<sub>1</sub> provided with rack b, pinion C and handwheel C<sub>2</sub>, and a suitable supporting frame. 6th. The combination of the spindle-carrier B<sub>1</sub> provided with the head E<sub>1</sub> and rack b, spindle D provided with enlarged portion D<sub>1</sub> and shoulder d, handwheel D<sub>2</sub>, chain F, weight F<sub>1</sub>, pinion C and handwheel C<sub>2</sub>, and suitable supporting frame.

**No. 14,580. Improvements in Coats.** (*Perfectionnements dans les habits.*)

Nils Malmar, Brooklyn, N. Y., U. S., 11th April, 1882; for 5 years.

*Claim.*—1st. A supplementary lining B C consisting of the combination of the sleeve lining C and body-lining B made in one piece by being permanently secured together at the shoulder, and adapted to be attached as a complete temporary inner lining to a coat. 2nd. A supplementary lining-sleeve C, adapted to be attached as a temporary inner sleeve lining to a coat.

**No. 14,581. Improvements on Wood Polishing Machines.** (*Perfectionnements aux machines à polir le bois.*)

James L. Perry and Charles A. Mather, Berlin, Wis., U. S., 11th April, 1882; for 5 years.

*Claim.*—1st. The combination of the two polishing rollers, the finishing brush and means for adjusting the brush with its tips just in contact with the object to be polished. 2nd. A roller having a body portion filling-sections composed of two pieces of brussels carpet, and an intermediate layer of paper felting, the faces of the two pieces of carpet being turned toward each other, with their loops bearing against the paper felting and the coverings of rubber and sand paper. 3rd. The frame carrying the polishing rollers, in combination with the table carrying the brush and hinged to the frame.

**No. 14,582. Process of Treating and Preparing Certain products to be used for Making Beverages.** (*Procédé de traitement et de préparation de certain produits pour la fabrication des breuvages.*)

C. Van Outrive-Carliet, Roulers, and Arthur W. Elliott, Bruges, Belgium, 12th April, 1882; for 5 years.

*Claim.*—1st. Preparing maize or Indian corn to obtain a product for making beverages, by roasting the maize or corn, then submitting it to a cooling operation, and then finally grinding or crushing it. 2nd. Preparing maize or Indian corn to obtain a product for making beverages by roasting the maize or corn with a small portion of sand or other suitable material, which is subsequently removed, then submitting the roasted grain to a cooling operation, and then finally grinding or crushing it. 3rd. As a new product for making beverages, in roasted and ground maize or Indian corn. 4th. The new compound for making beverages consisting of roasted and ground maize or Indian corn, prepared, roasted and ground chicory, and roasted and ground coffee, all intimately mixed together.

**No. 14,583. Improvements in Toy Whips and Cane Handles.** (*Perfectionnements aux fouets, jouets et aux poignées des canes.*)

Myron A. Gilman, Westfield, Mass., U. S., 11th April, 1882; for 5 years.

*Claim.*—1st. The combination of the cork or substance G, the string M, the outside or shell P P, with the barrels a and N, the cork or substance C, the shoulders K K L and the rod B, together with a whip or cane. 2nd. The cork or substance G, the string M, the outside or shell P P, with the barrels a and N, the cork substance c, the shoulders K K L L and the rod B.

**No. 14,584. Improvements on Furnaces.** (*Perfectionnements aux calorifères.*)

Octave Charland, Gentilly, Que., 11th April, 1882; (Extension of Patent No. 7342.)

**No. 14,585. Improvements on Refrigerators.** (*Perfectionnements aux garde-manger.*)

David W. Davis and Edward W. Voigt, Detroit, Mich., U. S., 11th April, 1882; for 5 years.

*Claim.*—1st. A chamber provided with an ice receptacle near the top of said chamber and supported from below, and with a top adapted when in use to compel a circulation of air in said chamber around the sides and over the top of such ice receptacle. 2nd. A chamber provided with an ice receptacle, the legs of which rest in drip pans, which are supported upon ledges and are provided with drip pipes. 3rd. A chamber provided with an ice receptacle, the ends of said receptacle forming a tight connection with the ceiling of the chamber, while the side walls of said receptacle are upon a lower plane to allow a circulation of air laterally over the top of such receptacle. 4th. The combination, in a refrigerating chamber, car, of the W-shaped ice receptacle E, drip pans b, ledges a, supports D and openings and stops G.

**No. 14,586. Spirometer.** (*Spiromètre.*)

Mathieu Souvielle, Montreal, Que., 12th April, 1882; (Extension of Patent No. 14,427.)

**No. 14,587. Spirometer.** (*Spiromètre.*)

Mathieu Souvielle, Montreal, Que., 12th April, 1882. (Extension of Patent No. 14,427.)

**No. 14,588. Improvements on Harvesting and Binding Machines.** (*Perfectionnements aux moissonneuses-lieuses.*)

Whiteley, Fassler and Kelly, (Assignees of William N. Whiteley and William Bayley.) Springfield, Ohio, U. S., 13th April, 1882; (Extension of Patent No. 14,483.)

**No. 14,589. Improvements on Harvesting and Binding Machines.** (*Perfectionnements aux moissonneuses-lieuses.*)

Whitely, Fassler and Kelly, (Assignees of William N. Whiteley and William Bayley.) Springfield, Ohio, U. S., 14th April, 1882; (Extension of Patent No. 14,483.)

**No. 14,590. Improvements in Combined Burglar-Alarms and Door Bolts.** (*Perfectionnements aux alarme-voleurs et aux verrous des portes combinés.*)

Reuben M. Patchin, Wayland, N. Y., U. S., 15th April, 1882; for 5 years.

*Claim.*—1st. In a combined door bolt and alarm, a bolt having its body made of tubular form to receive a cartridge or powder charge. 2nd. The combination of a socket or clamp adapted for application to a wall or casing, a tubular fastening bolt held thereby, and a firing mechanism mounted on the bolt and arranged to be actuated by a door or window. 3rd. The combination of the clamp or socket provided with the screw, the tubular bolt provided with the side opening, and the notch or shoulder therein, the spring and the sliding plunger provided with the side arm. 4th. The bolt provided with the cartridge-receiving chamber, in combination with the breech plug having the nipple, and the plunger having the plain centre and side lip.

**No. 14,591. Improvements on Saw-Guides.** (*Perfectionnements aux guide-scies.*)

John P. Hall, Bluffton, Ind., U. S., 15th April, 1882; for 5 years.

*Claim.*—1st. The base plate A, having the lever D pivoted on a boss projecting therefrom, and having at its bifurcated end the lug O, in combination with the screw-nut R connected thereto, and the adjusting screw-shaft T. 2nd. The base plate A east with the frustum-shaped boss C, in combination with the lever D and having screw-nut R, to operate in connection with the adjusting screw-shaft T, and means for connecting said lever to the base plate.

**No. 14,592. Improvement on Boats.** (*Perfectionnement des bateaux.*)

Charles L. King, Detroit, and Charles W. King, Kalamazoo, Mich., U. S., 15th April, 1882; for 5 years.

*Claim.*—1st. A boat or canoe frame, consisting of the gunwales A and keel B forming the bow and stern sections, adapted to be engaged or disengaged from the central or body section of such boat. 2nd. In a boat or canoe, secured to the stem and stern sections of the keel, the clips or fastenings d, in combination with the system of cords H. 3rd. In combination, in a sectional boat or canoe, the binding cord I and gunwales of said boat. 4th. In a sectional boat, the cord J in combination with a tightening device K. 5th. In a boat, the clips d grooved upon their outer faces, and adapted to secure the sections of the frame together, and to hold the gunwales and keel binding cords in place. 6th. In combination with the gunwales of a boat or canoe, the clips N and seat M.

**No. 14,593. Improvements on Medical Compounds.** (*Perfectionnements aux composés médicinaux.*)

John R. H. Davis and Lemuel L. Davis, Silver Plume, Col., U. S., 15th April, 1882; for 5 years.

*Claim.*—The medical compound or mixture described, composed of sarsaparilla, wild cherry bark, honey-locust bark,andelion root, red haw bark and whiskey, in or about the proportions specified.

**No. 14,594. Improvements in Pulverizer Disks.** (*Perfectionnements aux disques des triturateurs.*)

Stephen P. M. Tasker, Philadelphia, Penn., U. S., 15th April, 1882; for 5 years.

*Claim.*—1st. In a pulverizing machine, the combination, with a disk provided with openings around the periphery thereof, of an adjusting plate provided with openings corresponding in peripheral alignment with the openings in the disk. 2nd. In a pulverizing machine, the combination, with a disk provided with openings around the periphery thereof, of an adjusting plate provided with openings corresponding in peripheral alignment with the openings in the disk, and means for adjusting the plate with respect to the disk.

**No. 14,595. Improvements on Fertilizing Compounds.** (*Perfectionnements aux engrais artificiels.*)

Edwin J. Houser, Fort Valley, Ga., U. S., 15th April, 1882; for 5 years.

*Claim.*—1st. The described composition of matter for use as a fertilizer, composed of cotton seed meal, dissolved bone and German potash salts. 2nd. Fertilizing compounds of which the base or principal ingredient is cotton seed meal.

**No. 14,596. Improvements on Machines for Picking Stones and excavating Earth.** (*Perfectionnements aux machines à enlever les pierres et creuser.*)

Seth T. Gerow, Picton, Ont., 15th April, 1883; for 5 years

*Claim.*—1st. The combination of an endless lattice apron having picker teeth carried on sprocket wheels mounted upon an axle on wheels and a frame carried by said axle, the rear end of which is held at an adjustable distance from the ground, and carrying long rake gathering teeth into which the picker teeth engage, the forward end having an open bar bottomed chute for the delivery of the collected material into a suitable receptacle. 2nd. The combination, with a stone picker, of a separate collecting and draft attachment consisting of a receptacle mounted upon an axle on wheels, and having a hinged tailboard and lever dumping arrangement, the whole being easily attached or detached.

**No. 14,597. Improvements in Apparatus for Separating Fluids of Different Specific Gravities.** (*Perfectionnements aux appareils à séparer les fluides de pesanteur spécifique différente.*)

Gustaf de Laval, Stockholm, Sweden, 15th April, 1882; for 10 years.

*Claim.*—In a centrifugal fluid separator, the combination of a hollow centrifugal chamber adapted to rotate about a vertical axis, and having an upward prolongation or neck, a supply reservoir for fluid supported in said prolongation or neck, and a blade extending from said supply-reservoir into and nearly to the periphery of said chamber. 2nd. The combination, with the hollow centrifugal chamber B, having the prolongation or neck B<sub>1</sub>, of the central reservoir G, the blade J and the inlet pipe I. 3rd. The combination of the chamber B and its neck or prolongation B<sub>1</sub>, with discharge openings f f', the supply reservoir G with its blade J and supply tube or pipe I, the annular receptacles E E' and the pipe F.

**No. 14,598. Improvements in Methods and Apparatus for Sewing and Trimming Knitted Goods and Fabrics.** (*Perfectionnements aux méthodes de coudre et garnir les tricots et les tissus, et aux machines pour cet objet.*)

Stockton Borton, Philadelphia, Pa., and Charles H. Willcox, New York, N. Y., U. S., 15th April 1882; for 5 years.

*Claim.*—1st. In a trimming attachment for sewing machines, mechanism for clamping the fabric on opposite sides of the cutting edges of a pair of shears. 2nd. Clamping the fabric to be trimmed between one of the shear blades or cutters, and a holding finger or device. 3rd. A holding finger with roughened or toothed holding surface. 4th. The several forms of presser foot with holding finger. 5th. In a trimming attachment having a shear cutter capable of a rectilinear side movement, the oblique arrangement of the cutting edge of the two shear blades or cutters with respect to each other. 6th. In a trimming attachment, having one of the shear blades or cutters capable of a rectilinear side movement, the spring for holding it with its cutting edge in contact with that of the other cutter, this combination and arrangement being claimed as well for shear blades with parallel cutting edges, as for those having the cutting edges slightly oblique. 7th. The combination of the adjustable back stop with the laterally movable and vibratory blade and its spring. 8th. The combination of the stationary cutter with oblique cutting edge with the elements of claim 7. 9th. The rock shaft carrying the vibratory blade or cutter and extending from a point near the presser foot over the edge of the cloth plate and receiving a rocking motion from the main or looper shaft. 10th. In attaching or holding the vibratory cutter or blade against the end of the rock shaft by means of a screw, and a projection such as a steady pin. 11th. Arranging the vibratory cutter and rock shaft so that the trimmed off portion of the goods passes over said shaft. 12th. Arranging the rock shaft which carries the vibratory cutter under the cloth plate. 13th. The combination, with the rock shaft supported on the cloth plate and carrying the vibratory blade or cutter, of an inclined plate in front of said shaft. 14th. In a sewing machine with trimming attachment, the upright projection in front of the needle hole. 15th. The presser foot provided with a narrow toe, a lateral projection and an upright projection in front of the needle hole. 16th. Adjusting a sewing machine trimmer by the positive or direct mechanical action of a screw or equivalent device. 17th. Sewing or uniting knitted goods by means of a combined sewing and trimming machine, or otherwise with trimmed seams of plain sewing machine stitches, equal or about equal in length to the gauge of the fabric. 18th. Making a welt or hem by folding and sewing the fabric, and trimming off the surplus material simul-

taneously with the sewing operation. 19th. The method and means for guiding, sewing and trimming a welt or hem. 20th. The folding edge guide in its several forms. 21st. The combination of the folded edge guide and the overhanging guide. 22nd. The folded edge guide, in combination with a sewing machine having a presser foot. 23rd. The combination, with a combined sewing and trimming machine, of an edge guide arranged between the line of sewing and the line of trimming. 24th. The overhanging guide, in combination with a combined sewing and trimming machine. 25th. The folded edge guide and overhanging guide in the same combination. 26th. Detachably connecting the folded edge guide with an adjustable carrier plate. 27th. Supporting the folded edge guide, and the overhanging guide upon a common carrier plate adjustable. 28th. Cutting away the folded edge guide opposite the end of the overhanging guide. 29th. In combination with a presser foot cut away and provided with a lateral projection, an edge guide grooved or recessed under the said projection. 30th. The elements of claim 29 in combination with a combined sewing and trimming machine. 31st. A guide with oblique guiding edge, in combination with a presser foot cut away. 32nd. An adjustable holding finger or device in combination with a sewing and trimming machine for welting or hemming. 33rd. Measuring off the thread for each stitch by clamping the thread between a measuring pull off, and the stitch forming mechanism during the operation of the pull off, and then releasing the clamp and leaving the thread free to be drawn upon until the measured quantity is used up and further delivery is stopped by a suitable resisting tension, so that the same length of thread is worked into each stitch. 34th. The combination of an adjustable pull off, with an intermittent clamping tension and a resisting tension. 35th. The combination of a light check tension with a measuring or adjustable pull off and tension. 36th. The special construction of the resisting tension, of the intermittent clamping tension and of the modified form of check tension. 37th. The means described for producing an adjustable operation of the pull off. 38th. A feed lock for preventing the operator from altering the length of stitch. 39th. The special means for locking the device for regulating the length of stitch in a feed movement for sewing machines. 40th. A sewing machine provided with trimming attachment, welting or hemming guides, measuring tension and pull off, and feed lock.

**No. 14,599. Improvements on Air Cushion Compression Cylinders for Gang Saws.** (*Perfectionnements aux cylindres de compression à coussinets atmosphériques pour les scies en groupes.*)

George W. Nichols, Clinton City, Iowa, U.S., 15th April, 1882; for 5 years.

*Claim.*—The combination, with the air cushion compression cylinder *a* having inlets *i* and piston *b*, of the air cushion compression cylinders *b b* having pistons *m m* and rods *f f*, the connection between the said cylinders *a* and *b b* being made by means of pipes *K K* having valves *o q* and *r*, for giving a yielding force to the rollers *n n*.

**No. 14,600. Improvements on Air Cushion Compression Cylinders for Pressure Rollers of Gang Saws.** (*Perfectionnements aux cylindres de compression à coussinets atmosphériques pour les rouleaux de pression des scies en groupes.*)

George W. Nichols, Clinton City, Iowa, U.S., 15th April, 1882; for 5 years.

*Claim.*—The combination of twin air cushion compression cylinders *l l* having pistons *h h*, with the pressure rollers *n n* of a gang saw mill, the cylinders *l l* having air chests *i i* provided with valves *o o*, and connected together by means of the air pipe *t* having an induction pipe *l*.

**No. 14,601. Improvements on Car Brakes and Fenders.** (*Perfectionnements aux freins des chars et aux chasse-pierres.*)

John G. Schiller and Joseph W. Smith, Youngstown, Ohio, U.S., 17th April, 1882; for 5 years.

*Claim.*—1st. The draw-head C and rod D, carrying brake-shoes E and a suitable leverage link *d*, in combination with the timber F, brake-shoes H and rods *f g* connected to said timber. 2nd. The combination, with the timber F, carrying brake-shoes H and rods *f g*, of the draw-head C, rod D and rod *p* carrying yoke I. 3rd. The draw-head C, rod D carrying brake shoes E and leverage link *d*, and the yoke I, in combination with the timber F, brake-shoes H, rods *f g* and gauge nuts *i k*. 4th. The combination, with the pivoted bar *l* and rods *m o*, of the rod D carrying brake shoes E and leverage link *d*, with crank *e*. 5th. The pivoted or hinged fender or snow plough *l*, connected to the frame of the car truck.

**No. 14,602. Improvements in the Manufacture of Car Wheels.** (*Perfectionnements dans la fabrication des roues des chars.*)

Jacob Reese, Pittsburg, Pa., U.S., and William H. Burland, Montreal, Que., 17th April, 1882; for 5 years.

*Claim.*—1st. The method of manufacturing cast steel car wheels, which consists essentially in the following steps: first, casting the car wheel blank with hub and web of the shape and proportions of the finished wheel, and with the flange or tread wider and less in diameter than what is required in the finished wheel, and secondly, subjecting said blank to the action of rolling dies, which true the web and hub without compacting the metal, and which compress and compact the flange or tread, whereby a cast steel car wheel having a tough ductile web and hub and a hard dense tread is obtained. 2nd. As a new article of manufacture, a solid rolled or pressed cast steel car wheel, having smoothly finished



surfaces covered with circular lines having a circular texture, running in the line of travel of the wheel, and of gradually increasing closeness or density from its centre to periphery. 3rd. In a machine for rolling and pressing car wheels, the combination of a roll for rolling the flange and tread with a pair of rotating dies, and of an eccentric pawl to engage in a slot, and prevent the rotation of one of the said dies. 4th. In a machine for rolling and pressing car wheels, the combination of a roll for rolling the flange and tread, a pair of revolving dies to hold true, and straighten the sides of the blank, and eccentric pawl to prevent the rotation of one of said dies, and of a hydraulic ram for actuating one of said dies to exert pressure upon the wheel or blank.

**No. 14,603. Improvements in Furnaces.**

(*Perfectionnements dans les fourneaux.*)

John W. F. Sole, Guelph, Ont., 17th April, 1882; for 5 years.

*Claim.*—In combination with a furnace, a series of grate bars arranged therein and having their front ends deflected upwardly, for the purpose of directing draught in an oblique direction.

**No. 14,604. Improvement on Ships' Pumps.**

(*Perfectionnement aux pompes des vaisseaux.*)

Albert T. Ellis and Samuel C. Loud, Boston, Mass., U.S., 17th April, 1882; (Extension of Patent No. 7362.)

**No. 14,605. Improvements on Carburetters.**

(*Perfectionnements aux carburateurs.*)

Andrew Wiggin, Boston, Mass., U. S., 17th April, 1882; (Extension of Patent No. 7385.)

**No. 14,606. Improvements on Reaper Tables.**

(*Perfectionnements aux tables des moissonneuses.*)

William Russell, Dundas, Ont., 17th April, 1882; (Extension of Patent No. 7433.)

**No. 14,607. Improvements in Broom Sewing Machines.**

(*Perfectionnements aux machines à coudre les balais.*)

The Hand Stitch Broom Sewing Machine Company, Pittsburg, (Assignees of George E. McCombs, Washington, and Charles Rogers, Alleghany,) Pa., U.S., 17th April, 1882; (Extension of Patent No. 14,303.)

**No. 14,608. Improvements in Broom Sewing Machines.**

(*Perfectionnements aux machines à coudre les balais.*)

The Hand Stitch Broom Sewing Machine Company, Pittsburg, (Assignees of George E. McCombs, Washington, and Charles Rogers, Alleghany,) Pa., U.S., 18th April, 1882; (Extension of Patent No. 14,303.)

**No. 14,609. Improvements in Car Label Holders.**

(*Perfectionnements aux porte-étiquettes des chars.*)

Coroden J. Staffer, Grand Junotien, Mich., U. S., 19th April, 1828; for 5 years.

*Claim.*—1st. In a plate provided with arms for supporting a clamp, a clamp coiling around said arms forming spring extending vertically therefrom and passing through the plate, terminating in spurs adapted to receive the label on the front face of said plate where it is held by the clamp arms. 2nd. In a label holder device, a support having arms for supporting a clamp, provided with the knob ends, in combination with a clamp, provided with the helical coils. 3rd. In a label holder provided with a clamp and spurs, the clamp formed with the zigzag sides. 4th. The plate provided with the studs on the rear face or their described equivalents, in combination with the clamp and spur wires. 5th. In a label holder provided with arms bearing helical springs, in combination with a shield having the closed ends and adapted to cover said arms and springs. 6th. The hollow shield having enclosed ends, and slots to receive the clamp wires, said shield being adapted for attachment to the holder. 7th. In a plate provided with arms, the spur wire, holes, and the studs or equivalents on the rear face for holding said spur wires, in combination with the clamp, provided with the helical coils, the handle and the wires terminating in the spurs.

**No. 14,610. Improvements on Fruit Dryers.**

(*Perfectionnements aux séchoirs à fruits.*)

Daniel M. Donald, Norwich, Ont., 19th April, 1882; for 5 years.

*Claim.*—1st. In making the evaporator in two compartments, the first B being kept at a high temperature to get rid of the moisture quickly, in combination with iron doors D E and dampers or valves F N X. 2nd. In a fruit evaporator, the combination of railways H R L, with carriages I I having the rails across them, and carriage M having slides m to carry fruit trays. 3rd. The colour setter or bleachers Q having slide R, drawer S with chafing disk T and stove pipe U.

**No. 14,611. Composition for Smelting Iron and other Ores.**

(*Composé pour fondre les minerais de fer et autres.*)

William Q. Mastin, Oswego, N.Y., U.S., 19th April, 1882; for 5 years.

*Claim.*—1st. A composition for use in the process of smelting ores, of iron and other metals, composed of caustic soda, limestone,

soda ash and charcoal. 2nd. A composition for use in the process of smelting metallic ores, composed of the following ingredients, caustic soda 1 lb, limestone 2 lbs, soda ash  $\frac{1}{2}$  lb, and charcoal  $\frac{1}{2}$  lb.

**No. 14,612. Improvements on Car Axle Boxes.**

(*Perfectionnements aux boîtes à graisse des chars.*)

Joseph N. Smith, New York, N. Y., U.S., 19th April, 1882; for 5 years.

*Claim.*—1st. A detached saddle for an axle box, having a rounded or convex seat for the spring, and a socket adapted to rest upon a ball at the top of the housing, whereby perfect freedom of movement without friction is attained. 2nd. The saddle provided with a rounded seat for the spring arranged between raised guard flanges which have short laterally projecting flanges to receive the clip, in combination with the said clip arranged to engage the lateral flanges. 3rd. The combination, with the housing and the bearing cap of the slide or cap I<sup>1</sup>, the washer collar H<sup>1</sup> and the half collar E<sup>1</sup> provided with oblique scraping edges F<sup>1</sup> and a supporting spring c<sup>1</sup>. 4th. The bearing cap provided with the serpentine oil channel in its concave face, said channel being arranged to receive oil from the pump at the inner end of the bearing. 5th. The bearing cap J provided with the internal channel h<sup>1</sup>, the serpentine channel h<sup>2</sup> and the recess h<sup>3</sup> for the button on the axle journal. 6th. The combination, with the housing of the slide I<sup>1</sup> arranged to engage and rest upon the inner end of said housing, and the bearing cap provided with bearings in the housing, and with a projection to engage a recess in the said slide I<sup>1</sup>. 7th. The oil pump arranged to slide into a recess in the door of the box, and provided with a spring at its back to engage a shoulder on the said door, in combination with a door provided with a recess to receive the pump, a shoulder to engage the spring on the same, and an aperture near said shoulder through which the spring may be released from said shoulder. 8th. The combination of the housing, constructed to receive the door, the said door provided with marginal flanges to take over the margin of the opening in the housing, with a recess and keepers to receive the oil pump, a shoulder to engage the spring on the pump, and an aperture through which the disengagement of the spring is effected, and the oil pump provided with a projecting part to take under the roof of the housing, and a spring on its back to engage a shoulder on the door. 9th. The combination of the housing provided with margins or marginal flanges a<sup>1</sup> a<sup>2</sup>, the door provided with marginal flanges c<sup>1</sup> c<sup>2</sup> c<sup>3</sup> with a shoulder p, and aperture q<sup>1</sup>, the oil pump provided with springs a<sup>1</sup> m of unequal lengths, and a projecting part r to take under the roof of the housing, and the shipping bar arranged to be attached to and detached from the pump. 10th. The combination, with the housing and the door of the box, of the stopping bar arranged to embrace the pump and to slide in keepers on the door, the said pump and the plate j<sup>1</sup> attached removably to the stopping bar. 11th. The combination, with the pump chamber and the outer valve chamber arranged to slip over its lower end, of the stopping bar made to embrace the body of the pump chamber and provided with a flange to take under a projecting portion of the valve chamber and prevent it from escaping. 12th. The combination of the following coactive elements, namely: the housing, the bearing cap provided with a projection a<sup>1</sup>, the slide I<sup>1</sup> having a provision to engage the projection a<sup>1</sup>, the oil pump, the stopping bar connected with the pump, and the door M. 13th. The combination, with the housing, having a ball support for the saddle, of the saddle B<sup>1</sup> provided with a socket to rest on the said ball support, a rounded or convex seat for the spring H, two raised guards a<sup>1</sup> a<sup>2</sup> and two short lateral flanges b<sup>1</sup> b<sup>2</sup> on the guards a<sup>1</sup>, and a clip l having curved ends to engage the flanges b<sup>1</sup> b<sup>2</sup>.

**No. 14,613. Improvement in Handles for Shovels and other Implements.**

(*Perfectionnement des manches de pelles et autres instruments.*)

William H. Johnson, Industry, Me., U. S., 19th April, 1882; for 5 years.

*Claim.*—1st. The combination of the hand grip D provided with the eccentrically arranged tenons, with the prongs having the mortises and bolt holes and with the bolt E and the end clasps e. 2nd. In combination with the steamed and curved prongs B B and the round or hand grip D connected therewith, the brace C, the bolt or rivet c. 3rd. In combination with the steamed and curved prongs B B and the round or hand grip D connected therewith, the brace C and the bolt or rivet c and its end washers.

**No. 14,614. Improvement on Bottle Wrappers.**

(*Perfectionnement des clisses de bouteilles.*)

Martin V. Kacer, St. Louis, Mo., U.S., 19th April, 1882; for 5 years.

*Claim.*—A bottle wrapper made of thin wood having corrugations whose lines of cut cross the grain of the wood.

**No. 14,615. Improvements on Mowing and Reaping Machines.**

(*Perfectionnements aux faucheuses moissonneuses.*)

George W. Freeman, Amherst, N. S., 19th April, 1882; for 5 years.

*Claim.*—The combination of the case a, sliding bolt b with its recess c, spiral spring d, elastic washer l and pin e.

**No. 14,616. Improvements on Process and Apparatus for Coating Metals with Zinc.**

(*Perfectionnements aux procédés et aux appareils pour enduire les métaux de zinc.*)

Henry Roberts, Pittsburg, Penn., U.S., 19th April, 1882; for 5 years.

*Claim.*—1st. The process of subjecting the wires to a simultaneously pickling and abrasion by leading them through a tank containing

acid and broken stone, or other small masses of hard material. 2nd. The process consisting of, first, treating with acid and with broken stone or other abrasive material, then heating and drying the wire in the air and then immersing it in the hot bath of melted metal. 3rd. The apparatus having the vessel provided with rollers or guides D and adapted to contain broken stone or other abrasive material and acid, in combination with the means A for supplying wire in continuous lengths, and the furnace G with tubes F for rapidly heating and drying the wire, and with the metal coating bath I and means for traversing the wire continuously through the apparatus.

**No. 14,617. Improvements on Horse Shoe Machines.** (*Perfectionnements aux machines à fers à cheval.*)

Theodore S. Very, Boston, Mass., (Assignee of Hazen J. Batchelder, Catsaugua, Penn.,) U.S., 19th April, 1882: (Extension of Patent No. 7359.)

**No. 14,618. Improvements in Stock Cars.** (*Perfectionnements aux chars à bestiaux.*)

Alonzo C. Mather, Chicago, Ill., U.S., 19th April, 1882: for 5 years.

*Claim.*—1st. The combination, with a stock car, of the folding and vertically adjustable hay rack Et containing the laterally extending bars b b, jointed between their ends and adapted for support in an arch or truss like form. 2nd. A folding and vertically adjustable hay rack, in combination with a windlass and a stock car. 3rd. In combination with a stock car, the independent adjustable and removable closed water tank C, provided with a suspending hook and having therein one or more drinking ports, each surrounded by a guard or flange to prevent splashing. 4th. A hollow trough having therein one or more drinking ports, and containing the float at said port or ports in combination with a stock car. 5th. The combination, with a stock car, of stalls constructed by means of removable bars separate and independent of each other, and of the cars, and mortises or sockets arranged in vertical and horizontal series along the sides of the car to receive the ends of the said bars, and whereby both the width and height of the stalls may be varied by arranging the said bars in correspondingly located mortises or sockets. 6th. The stock supporting belt, in combination with a vertically yielding support, for suspending the same adjustably and yieldingly at various heights. 7th. The combination in a stock car, of a belt D and a vertically yielding windlass. 8th. In a support bar resting on springs, in combination with a stock supporting belt connected to the said bar.

**No. 14,619. Improvements on Apparatus for Manufacturing Paper Pulp.** (*Perfectionnements aux appareils de fabrication de la pâte à papier.*)

Morris L. Keen, Experiment Mills, Penn., U.S., 19th April, 1882: for 5 years.

*Claim.*—1st. In a paper pulp boiler having trunnions on which it is revolved when in use, the steam connections leading through the trunnions to strainers arranged as shown, in combination with valves automatically controlling the respective passages by means of ex-centrics or cams G rotated with the boiler. 2nd. In an apparatus for treating paper stock by steam in a revolving boiler, the devices G, combined and arranged so as to perform the double function of glands for the stuffing boxes, and of cams for operating the valves at each revolution. 3rd. In an apparatus for treating paper stock, the discharge valve I having a nozzle J and discharge pipe J having a socket J, in combination with each other and with the revolving boiler A and the means K, for throwing the pipe into and out of engagement. 4th. In an apparatus for treating paper pulp with steam, the stand pipe M, sprinkling plate N and water supply O O, in combination with the pipe J for receiving the material from the boiler, and arranged to condense the steam and discharge the stock gently into a receiving tank R. 5th. In an apparatus for treating paper stock with steam with or without alkali, the combination of a revolving boiler, the strainers and steam pipes with provisions for automatically controlling the steam so that it shall be received only through the lowermost strainer, the provision T L for receiving the stock, and the provision I I J J M N O for taking away the pulp under pressure.

**No. 14,620. Improvements on Apparatus for Automatically Lighting and Extinguishing Gas Lamps.** (*Perfectionnements aux appareils pour allumer et éteindre automatiquement les reverberiers à gaz.*)

George B. Gauster, Reading, Penn., U.S., 19th April, 1882: for 5 years.

*Claim.*—1st. A gas lighting and extinguishing device, arranged, constructed and operated as described. 2nd. The combination with a lamp provided with self-lighting and extinguishing mechanism, and having a casing C, arms c and centering point or bearing c, of a screw wheel D mounted on a shaft D, provided with a box D, adapted to hold anti-friction material. 3rd. The combination, with the burner tube, of an automatic gas lighting and extinguishing device, of the chamber G hollow bearing f, seat f, valve h and super imposed spring hz. 4th. The combination, with the subsidiary burner J, of an automatic gas lighting and extinguishing device, of a needle J; rocking arm J, sliding rod Js and cam Jz. 5th. The fanwheel D arranged above the rising products of combustion, in combination with the clockwork contained in the casing F and with means operated thereby for supplying and suppressing the gas. 6th. The combination, with the automatic lighting and extinguishing device F, hollow frame A and globe or reflector Y, of the casing C, centering point or bearing c, screw wheel D, shaft D and box D. 7th. The combination, with the shaft D, of the box D and centering point or bearing c.

**No. 14,621. Improvements on Sewing Machines.** (*Perfectionnements aux machines à coudre.*)

William T. Cook, Foxborough, (Assignee of Job A. Davis, Boston,) Mass., U. S., 20th April, 1882: for 15 years.

*Claim.*—1st. The combination, with the upper feed-bar N, the cams G H and driving shaft C, of the U-shaped tumbler O embracing the former cam, the lever P and a spring m, all constructed together to operate the feed-bar. 2nd. The combination, with the presser bar M, the cam G and driving shaft C, of the U-shaped tumbler O fulcrumed in the presser bar and embracing the said cam, and a spring d. 3rd. The needle bar L, the upper feed bar N and presser bar M, in combination with the needle bar having the slotted cam b, cams G H, crank arm K, driving shaft C, tumbler O, lever arm P, springs d m connected to the said several bars. 4th. The combination, with a continuous rotating shuttle carrier and shuttle, of a block t in parts, a guideway r on standard D, and a connecting rod X having a fulcrum v on block t, hinged to eccentric V of a rotating shaft U, and arranged to move in a radial slot s of a rotating shaft U. 5th. A continuous rotary shuttle D<sub>2</sub> having an elongated eye f<sub>2</sub>, one end of which eye is coincident with the axis of rotation of the shuttle, and the other end is toward the heel of the shuttle. 6th. A rotary carrier for a continuous rotary shuttle D<sub>2</sub> provided with a raised rib or edge K<sub>2</sub> having its outer edge inclined with respect to the shuttle carrier, whereby the needle thread, as it passes the same, will be deflected from the path of the shuttle point. 7th. A continuous rotary shuttle D<sub>2</sub> and its carrier C<sub>2</sub> and raceway A<sub>2</sub>, in combination with the button f<sub>2</sub> and its head a<sub>2</sub> arranged in such raceway, and with the flat and depressed bearing face f<sub>2</sub> for such button head. 8th. An upper feed-rod N arranged to raise and lower and to be moved by mechanism forward and backward, in combination with an under or auxiliary feed-bar F<sub>1</sub> arranged to grip the material being sewed between it and the upper feed bar, and to move forward and backward, receiving its forward movement directly from and because of the similar movement of the upper feed-bar and its backward movement by and through mechanism acting upon it alone and independent of the operation of the mechanism of the upper feed-bar in a similar direction. 9th. An upper feed-bar N arranged to raise and lower, and to be moved by mechanism forward and backward, in combination with an under or auxiliary feed-bar F<sub>2</sub> arranged for the gripping of the material being sewed between it and the upper feed-bar, and to move forward and backward, receiving its forward movement directly from and because of the pressure of the upper feed bar and its backward movement by and through a radial arm L<sub>2</sub> secured to it, and a revolving cam l<sub>2</sub> acting together upon it alone and independent of the operation of the mechanism of the upper feed-bar in a similar direction. 10th. The combination, with a rectilinear reciprocating needler, of a continuous rotary shuttle carrier arranged to pass at one side of said needle, and to press or bear by the face of its block c<sub>2</sub> against it, should the needle be bent or otherwise placed out of its proper line of movement. 11th. The raceway A<sub>2</sub> having an open end for the continuous rotary shuttle and its carrier C<sub>2</sub>, in combination with arms F<sub>2</sub> G<sub>2</sub> closing said open end, the arm F<sub>2</sub> being adapted to act as an under or auxiliary feed-bar, and the arm G<sub>2</sub> to be closed upon and opened from the said raceway.

**No. 14,622. Improvements on Wash Boilers.** (*Perfectionnements aux chaudières de buanderie.*)

William Barton, Newark, N. J., U. S., 20th April, 1882: for 5 years.

*Claim.*—1st. The base or heating chamber formed with the pipe-seats on its upper surface, in combination with the connected pipes B B, the pipe B<sub>1</sub> being closed to form a chamber. 2nd. The detachable tubular heater C provided with the series of open tubes c, in combination with the heating chamber provided with the screw-bolts g, for securing the tubular heater within the chamber. 3rd. The tubular heater formed with the lugs d and the lip d<sub>1</sub> upon its upper surface, in combination with the heating chamber having the throat A<sub>1</sub> and the screw-bolt g. 4th. The tubular heater with the heating-chamber having the throat A<sub>1</sub> and the screw-bolt g. 5th. The tubular heater C with the heating chamber having the holes a<sub>1</sub> a<sub>1</sub>, which registers with two of the tubes in the tubular heater, in combination with the connected pipes B and B<sub>1</sub>.

**No. 14,623. Improvements on Finger, Scarf and other Rings.** (*Perfectionnements aux joncs, anneaux de cravates et autres.*)

Robert J. La Grange, Philadelphia, Penn., U. S., 20th April, 1882: for 5 years.

*Claim.*—1st. The ring having a head with grooved or hollow segments hinged or pivoted thereto, and an expandible and contractible segment fitted into the former segments. 2nd. The ring having hinged segments, an expandible and contractible segment, and a spring fastening plate C therefor.

**No. 14,624. Improvements on Roller Skates.** (*Perfectionnements aux patins à roulettes.*)

Cadwallader M. Raymond, Boston, Mass., U. S., 20th April, 1882: for 5 years.

*Claim.*—1st. A roller skate or skating device, having independent heel and toe plates combined with the heel and sole of a skater's boot or shoe. 2nd. An extendible roller skate, with separate heel and toe plates adapted to overlap constantly over the rollers and yet move longitudinally upon each other, as required for an adjustment of the length of the skate. 3rd. The combination, with the heel and toe plates A B of an extendible skate, of a bolt P passing through an aperture in one of the plates, and through a slot connecting a series of apertures in the other plate, a portion of its shank being reduced to pass through the slot. 4th. In combination with the roller of a roller skate, of a lubrication chamber N, communicating with the pivotal bearing of the roller, filled with lubricating packing and closed by an outer plug or cap.

**No. 14,625. Improvements on Lifting Jacks.***(Perfectionnements aux crics.)*

William N. Higgins, Wicklow, Ont., 20th April, 1882; for 5 years.

*Claim.*—1st. The block C, having a slot F extending inwardly toward the middle, in combination with a lever E pivoted to the hollow casing A receiving the block C slidingly. 2nd. The hook I, looped around the top of the block C and provided with an angularly bent termination, in combination with casing A and lever E.

**No. 14,626. Improvements on Tables.***(Perfectionnements aux tables.)*

James Plenkharp, Columbus, Ohio, U. S., 20th April, 1882; for 5 years.

*Claim.*—The combination of a table leg having vertical grooves which incline transversely toward each other, rails having grooves which incline towards each other vertically, and a clamp piece having end flanges which enter the grooves in the rails, and flanges intermediate of its end which enter the groove in the leg.

**No. 14,627. Improvements on Fish Hook Extractors.***(Perfectionnements aux extracteurs des hameçons.)*

Jeremiah W. Foard, San Francisco, Cal., U. S., 20th April, 1882; for 5 years.

*Claim.*—The shaft C having overlapping flanges A, at the point and adjacent sides, forming recesses B.

**No. 14,628. Improvements on the Construction of Running Gears for Vehicles.***(Perfectionnements dans la construction des trains de voitures.)*

Robert McLaughlin, Oshawa, Ont., 20th April, 1882; for 5 years.

*Claim.*—1st. In a metal plate extending in one solid piece from the front axle to the rear, and having a T-shaped end on its back end, the combination of the shackle C arranged to fit over the axle, and provided with clamping plates b to fit over the T-shaped end. 2nd. In a metal reach plate extending from the front axle to the rear axle, and having its front end fork-shaped, the lower prong having an eye-hole in its end to fit over the king bolt, while the end of the upper prong is T-shaped and set so as to fit against the back of the head block, the combination of a rubber washer g placed on the king bolt D between the eye-hole d and nut h. 3rd. In the running gear of a vehicle in which the front head block is pivoted to the front axle on a king bolt, the combination of a metal reach plate having a bifurcated end, one portion of which is bolted to the head block, and the other portion pivoted upon the king bolt.

**No. 14,629. Improvements on Fence Wire Stretchers.***(Perfectionnements aux appareils à tendre le fils des clôtures métalliques.)*

Sidney M. Stevens, DeKalb, Ill., U. S., 20th April, 1882; for 5 years.

*Claim.*—1st. The fence wire stretcher consisting of an arm F carrying a gripping device, and provided with a trunion E, a winding drum mounted on said trunion and secured directly thereto, and provided with an operating crank and a cord provided with a hook or griper. 2nd. The combination of arm F, hollow conical trunion E, drum A, ratchet a, crank D, bolt or rivet f, griper F, pawl J and cord B. 3rd. The combination, with the drum mounted on a trunion at one side of the grip carrying arm, of a handle G projecting from the opposite side the crank, the ratchet, the cord, the pawl and gripping device. 4th. The stretcher consisting of the griper arm, the winch, revolvably secured thereto, and the double crank arm. 5th. The combination of the double crank arm, drum and ratchet cast in one piece, and the griper provided with a trunion cast thereon.

**No. 14,630. Improvements on Swinging Lever Engines.***(Perfectionnements des machines à levier oscillant.)*

Joseph Von Zách, Budapest, Hungary, 20th April, 1882; for 5 years.

*Claim.*—1st. The swinging lever and the direct or indirect application of the same for actuating machinery. 2nd. The suspension of the swinging lever by a plate resting in a groove cut out in an axle. 3rd. The employment of the two yokes for actuating the two ratchet wheels. 4th. The use and application of the yokes and of the ratchet wheels belonging to the same for the transformation of a reciprocating motion into a rotary one.

**No. 14,631. Explosive Compound.***(Composé explosible.)*

Eugène Turpin, Paris, France, 20th April, 1882; for 5 years.

*Claim.*—An improved explosive having hyponitric anhydride (nitrogen tetroxide or piroxide) as a base.

**No. 14,632. Improvements on Lacing Hooks***(Perfectionnements aux crochets pour lacier.)*

Mellen Bray, Newton, Mass., U. S., 20th April, 1882; for 5 years.

*Claim.*—1st. A hook for lacing boots, gloves and other articles, provided with a flat disk-like portion adapted to rest upon the material when applied for use, and a hook bent outward and backward from said disk in a plane parallel, or nearly so, to the body of the disk. 2nd. Lacing hook for boots, gloves, or other articles, having its neck bent in a plane parallel, or nearly so, with the flat surface of the portion which rests upon the material when secured thereto, and also bent at right angles to said surface, to form the arch d and depressions f. 3rd. As a means of lacing boots, gloves or other articles of wearing apparel,

the combination, with a single lacing cord secured by one end to the article to be laced, of two series of hooks, having their necks bent in planes parallel, or nearly so, to the material to which they are secured and arranged in pairs with their open sides all in the same direction, whereby the boot, glove or other article may be so laced that the draft upon the lacing cord shall tend to press the ends, or points of said hooks, close upon the article being laced.

**No. 14,633. Improvements in Button Hole Casings.***(Perfectionnements aux boutons.)*

Thomas Dann, Montreal, Que., 30th April, 1882; for 5 years.

*Claim.*—A button hole casing consisting of a single blank, sewn face downward to the right side of the boot, shoe, garment or other article, and then turned over, passed through the button hole and secured by stitching.

**No. 14,634. Improvements in Expanding Mandrels.***(Perfectionnements des mandrins à expansion.)*

William H. Nicholson, Wilkes Barre, Penn., U. S., 21st April, 1882; for 5 years.

*Claim.*—The combination of the plain conical arbor A, adapted to be held between the centres of a lathe, the short sleeve B having longitudinal slots a and the dogs C tapered on their inner edges to conform to the taper of the arbor, and provided with integral end lugs b which extend beneath the sleeve and limit their outward projection.

**No. 14,635. Improvements on Horse Powers.***(Perfectionnements aux manèges.)*

James Smirl, Finch, Ont., 21st April, 1882; for 5 years.

*Claim.*—The combination, with the master wheel E mounted on spindle C, of the lever H fulcrumed to fixture I and provided with weight J and shaft G journaled in said lever, and carrying friction roller F and disk or pulley K, whereby the shaft yields to permit the friction roller to slip to overcome a jerking motion incident to too sudden a start of the animal.

**No. 14,636. Improvements on Electric Lamps.***(Perfectionnements aux lampes électriques.)*

Tom E. Gatehouse, London, Eng., 21st April, 1882; for 5 years.

*Claim.*—1st. The combination, in electric lamps or apparatus, of a material, the electrical resistance of which decreases by heating with a metal filament, the electrical resistance of which increases by heating in parallel series, or alternative circuits, for purposes of control or regulation. 2nd. In electric light lamps, the combination, with the above claimed parallel circuits, of a sliding contact S on the carbon shunt C to regulate its length and at the same time the degree of light from the lamp. 3rd. In electric light lamps, the combination, with claim 1, of a solenoid M or electro magnet to automatically regulate the carbon C in one lamp or in a series of lamps, according to the strength of current. 4th. In electric light lamps, the combination, with claim 1, of a resistance R for the purpose shown in figure 8. 5th. In incandescent electric lamps, the combination of the carbon filament C with the resisting platinum wires P P as to figure 11. 6th. In electric light lamps with exhausted globes, the construction of the air-tight joint with an elastic carbonaceous, fusible, volatilizable material F as in figures 2 and 3. 7th. The construction and general arrangement of the lamps in figures 4 5 6 7 9 consisting of a parallel circuit, (claimed in No. 1) in combination with alternative subsidiary.

**No. 14,637. Improvements on Cultivators.***(Perfectionnements aux cultivateurs.)*

James E. Weller, Kalamazoo, Mich., U. S., 21st April, 1882; for 5 years.

*Claim.*—1st. In a sulky barrow, the hinged share beams of graduated lengths, provided with the graduated springs, the bar connecting said springs with the lifting lever, and the weight arm. 2nd. The combination, with the cluster of independently hinged share beams and the weight arm, of springs and the means for connecting them with said weight arm so constructed and arranged that the bearing down of the weight will affect all the share beams alike.

**No. 14,638. Improvements in Cushion Protectors for Bottles and Jars.***(Perfectionnements des protecteurs de bouteilles et jarres.)*

James M. Thorpe and Joseph A. Belloli, San Jose, Cal., U. S., 21st April, 1882; for 5 years.

*Claim.*—1st. A bottle or jar having rubber or elastic rings fitted around it. 2nd. A bottle or jar provided with a series of suitable cushion seats, in combination with elastic rings or bands fitting said seats. 3rd. A bottle A having the series of circumferential grooves a and a, in combination with the elastic rings or cushions b. 4th. The jar B having the series of circumferential beads c et, in combination with the cushion rings or bands d.

**No. 14,639. Improvements on Smoke-Consuming Furnaces.***(Perfectionnements aux foyers fumivores.)*

Cyrus Smith, Irwin's Station, Penn., U. S., 21st April, 1882; for 5 years.

*Claim.*—1st. The combination, with a boiler fire-place, of the ash-pit E, provided with adjustable dividing partition F, covered passage

Hand bridge-wall H<sup>1</sup> provided with opening d. 2nd. The combination, with the ash-pit E, of the connecting box or chamber I, provided with cut off K, whereby the blast into the ash-pit is regulated. 3rd. The combination, with the boiler A, of the smoke stack D provided with door O and damper p, fan-blower L, box n provided with air-openings o o, connecting box or chamber i and chambered ash pit E. 4th. The combination, with the fan blower L, of the air and gas mixing box n provided with air openings o o. 5th. The combination, with the boiler A, of the fan blower I, consisting of cylindrical shell M, shaft L, fan L composed of sleeve m, spiders g, circular plate m<sup>1</sup>, lugs i i, wings b b, and braces m m. 6th. In a boiler fan-blower designed for returning smoke and condensed gases from the smoke stack to the boiler, the combination with the shaft L<sup>1</sup> provided with outside bearings f f, of the sleeve m and end plate m<sup>1</sup> having spaces K K between them, and inclined wing braces m m.

**No. 14,640. Improvements on Ferry Boats or Tow Boats.** (*Perfectionnements aux bateaux traversiers ou remorqueurs.*)

William Farquhar, William Norris et I. Alphonse M. Beaudry, Montreal, Que, 21st April, 1882; for 5 years.

*Resumé.*—1e. L'application des roues hydrauliques a a, à la locomotion des bateaux traversiers ou remorqueurs. 2e. L'application des roues dentées ou à friction d'angles i i et j, afin de changer l'axe de rotation du treuil. 3e. L'application des roues dentées ou à friction de diamètres différents c d, afin d'augmenter la vitesse du mouvement. 4th. L'application du treuil c mu par les roues hydrauliques a a, par l'entremise des roues dentées à friction ou à courroies d e i i et j pour la locomotion des bateaux. 5e. L'application du câble de halage b (en lin, en métal ou de chaîne.) fixé et maintenu aux deux extrémités f et f<sup>1</sup> ou g, et que le treuil enroule d'un côté pour dévider de l'autre et opérer ainsi la locomotion du bateau.)

**No. 14,641. Improvements in Cable Street Railroads.** (*Perfectionnements aux tramways à traction de câble.*)

Worcester Haddock, Jacob Frank, Cincinnati, Ohio, and Isaac Frank New York, U. S., 21st April, 1882; for 5 years.

*Claim.*—1st. The box or tube A, provided with rib or bracket C and opening f. 2nd. The box or tube A provided with rib or bracket C and supporting flange or lug e<sub>1</sub> and top plate E. 3rd. The box or tube A provided with rib or bracket C, flange e and top plate E. 4th. The box or tube A provided with rib or bracket C, supporting flange or lug e<sub>1</sub>, flange e and top plate E. 5th. In combination with the track H, and an underground cable, the plates E provided with the downwardly projecting flanges e<sub>2</sub> and the upwardly projecting oblique flanges f, forming openings f<sub>1</sub> for the reception of the clutch or griper. 6th. The tube or box A provided with the flanges or brackets e<sub>1</sub> and the flanges b. 7th. The tube or box A provided with the rib or bracket C and flange b. 8th. The tube or box A provided with rib or bracket C and flange or bracket b, and flange b<sub>1</sub>. 9th. The combination at cross tracks of the crossing tube or box A and the flange b, and rib or bracket C fixed on said box or tube, the sides a of the main box being cut away to form openings X. 10th. The tube or box A provided with an upwardly projecting convex or arched bottom a<sub>1</sub>. 11th. The tube or box A provided with the upwardly projecting or arched bottom a<sub>1</sub> and drain outlets L. 12th. The tube or box A provided with the upwardly projecting or arched bottom, and passage openings a<sub>2</sub>. 13th. The tube or box A provided with the upwardly projecting or arched bottom and passage openings a<sub>2</sub> and drain outlets. 14th. The combination of the tube or box A, and the rib or bracket C, and the bracket C<sub>1</sub>, and roller D and cable B. 15th. The combination of the tube or box A, the rib or bracket C, bottom a<sub>1</sub>, roller D suitably supported, and cable B. 16th. The combination of the tube or box A provided with interior rib or bracket C and the brackets F. 17th. The brackets F suitably secured to the box A and provided with the dovetailed shoe F<sub>1</sub>, in combination with the stringers G held in said shoes by a dovetailed wedge h. 18th. The combination of the brackets F provided with shoes F<sub>1</sub>, and the stringers G held in said shoes by the wedge h. 19th. In a cable railway, the combination of the tube or box A and the telegraph or telephone wires g<sub>1</sub> running in the interior of said tube. 20th. The box or tube A, provided with the interior rib C, in combination with the telegraph or telephone wires g<sub>1</sub> said wires passing through the opening g in said ribs. 21st. The cable box or tube provided with the interior ribs C, in combination with the telegraph or telephone wires g<sub>1</sub> said wires being connected to the wooden strips g<sub>2</sub> and passing through openings in g in said ribs. 22nd. The combination of the main box or tube A, and a cross box or tube, the ends of the latter being bolted to the former, by bolts passing through the flanges b of the cross-box or tube, and the sides of the main box or tube. 23rd. The combination of a cable tube or box, bearing p and rail H, and rail bearing G. 24th. The combination of the cable tube or box, the bearing p, rail H, and bearing G for rail. 25th. The combination of a cable or tube or box, the bearing p, bearing q<sub>1</sub>, and rail H and bearing G for rail. 26th. The combination of a cable box or tube, the bearing p and bearing q<sub>1</sub>, and rail placed at an angle to the length of the box or tube. 27th. The combination of a cable box or tube, and the bearings p and end o forming openings f. 28th. The combination of a cable box or tube, and the bearing p and flanges u. 29th. The combination of a cable box or tube, and bearing m and flanges u. 30th. The combination of a cable box or tube, the bearing m and ends o. 31st. In combination with a cable box or tube, the shoe N. 32nd. The combination of a cable box or tube and shoe N, and ends o forming openings f. 33rd. In a cable box or tube, the upwardly arched or inclined bottom, in combination with the pulleys D, located over the highest point of said arch.

**No. 14,642. Improvements on Barbed Wire Fences.** (*Perfectionnements aux clôtures en fil métallique barbelées.*)

Thompson McCosh, (Assignee of Milton C. Shinn.) Burlington, Iowa, U. S., 21st April, 1882; for 5 years.

*Claim.*—A four-pointed metallic fence-barb composed of two wires of nearly equal length, the two barb-wires being closely wound interspirally around one of the cable wires of the fence, and only crossing each other at one point, where they are made to interlock with each other, for the purpose of being firmly united into one unchangeable barb.

**No. 14,643. Improvements on Cigarettes.**

(*Perfectionnements aux cigarettes.*)

Kinney Tobacco Company, (Assignee of Henry A. Cuppia.) New York, N. Y., U. S., 21st April, 1882; for 5 years.

*Claim.*—A cigarette having a mouth-piece attachment abutting against its end, and secured in place by a binding strip that envelopes both the cigarette and the end of the mouth piece.

**No. 14,644. Improvements on Tow Boats.**

(*Perfectionnements aux remorqueurs.*)

Alexander McDougall, Cleveland, Ohio, U. S. 21st April, 1882; for 5 years.

*Claim.*—1st. A tow-boat having a flat bottom, vertical sides and completely roofed in from stem to stern by a deck of semi-cylindrical form. 2nd. A tow-boat having a flat bottom, vertical sides, semi-cylindrical upper portion and bow and stern alike. 3rd. A tow-boat having turrets and supporting decks. 4th. In a tow-boat, the combination of a turret at each end of the upper deck, a cabin or forecabin immediately below the same, and a passage between the turrets and the cabin and forecabin. 5th. In a tow-boat, the combination of central frames alike in all respects, and bow and stern frames alike in all respects. 6th. In a tow-boat, the combination, with the hatch combings, of the stanchions secured thereto at one end.

**No. 14,645. Improvements on Hay Presses.**

(*Perfectionnements aux presses à foin.*)

Peter K. Dederick, Albany, N. Y., U. S., 21st April, 1882; (Extension of Patent No. 7485.)

**No. 14,646. Improvements in Machines for Making Spikes.**

(*Perfectionnements aux machines à faire les clous barbelés.*)

William A. D. Bowman, Jersey City, N. J., and August W. Almquist, Brooklyn, N. Y., U. S., 24th April, 1882; for 5 years.

*Claim.*—1st. The combination, with a pair of vertical pointing dies, of a pair of horizontal or lateral indentation dies arranged to indent the spike bar on opposite sides, and reduce its width before it is acted on by the pointing dies. 2nd. The combination, with a pair of vertical pointing dies, of a pair of horizontal or lateral indentation dies, adjustable during motion of the machine to regulate the depth of indentation. 3rd. The combination, with the sliding indentation dies I, of the cam h fitted to slide transversely in the revolving shaft H, the axial expanding block J and the adjusting screw K swivelled to the said block, and mounted in the stationary bearing nut K. 4th. The combination of the blank supporting heading die L and the laterally or transversely movable gripping die M working in conjunction, to grasp diagonally opposite angles of the pointed blank along the entire shank part of the latter, and thus retain it in position while the spike head is being formed. 5th. The upright rocking arm m pivoted at its lower end, and provided at its upper end with a laterally projecting die holder or cross head n carrying the gripping arm M, in combination with the cam P actuating that end of the holder which is opposite to the die M, and with the stationary heading die L for the purpose of gripping the blank with an obliquely descending movement. 6th. In combination with the heading die L, the gripping die M and a mechanism to impart to the said gripping die, the successive transverse and longitudinal movements described, so as to cause it to grasp the blank for heading and eject the spike when completed. 7th. In combination with the gripping die M and a revolving cam P arranged to move the said gripping die in a direction at right angles to the spike bar, a severing cam p arranged to move the gripping die successively in a direction parallel with the spike bar. 8th. The revolving cam P having a curviform rise or roller p upon its side, in combination with the holder m of the gripping die, having suitable working surfaces n arranged to be acted on successively in direction transverse to, and parallel with the spike bar. 9th. The yoke R R<sup>1</sup> having guides r and the header Q arranged to slide in said guides, in combination with the crank shaft s, and the worm gear T t for adjusting the elevation of the front end R, of said yoke. 10th. The yoke R R<sup>1</sup> having guides r and the header Q arranged to slide in said guide, in combination, with the toggle links U V, centre pivoting hub W and the swivelled rod X for adjusting the elevation of the rear end R, of said yoke. 11th. The combination of the yoke R R<sup>1</sup> having guides r, the sliding header Q, the eccentric b z, the crank shaft s, worm gear T t, toggle joint U V W and swivelled screw rod X. 12th. The combination of the crank adjusting screw e<sub>1</sub> and the toothed wheel z upon the said screw, with the stationary pawls F F<sup>1</sup> kept automatically from contact with the said wheel and provided with means for projecting them at will, to intercept and turn the said wheel a little for one revolution of the crank, to vary the length of the throw while the machine is in motion.

**No. 14,647. Improvements on Water Heaters.**

(*Perfectionnements aux calorifères.*)

Peter Smith, Detroit, Mich., U. S., 24th April, 1882; for 5 years.

*Claim.*—An upright furnace with an inclosing water jacket, a conduit leading into the jacket from the outside of a furnace, and a pipe coil arranged within the furnace and having one terminal connected with the water jacket, and the other leading directly to the outside of the furnace, and adapted for connecting with a water conveying pipe.

**No. 14,648. Machine for Setting the Edges of Boots and Shoes.** (*Machine à finir la tranche des chaussures.*)

George H. P. Flagg, (Assignee of George A. Fullerton,) Boston, Mass., U. S., 24th April, 1882: (Extension of Patent No. 7768.)

**No. 14,649. Improvements on Staples.** (*Perfectionnements aux gâches.*)

Charles W. Dean, South, Wareham, Mass., U. S., 24th April, 1882; for 5 years.

*Claim.*—1st. The process described, of manufacturing metallic staples by first cutting them from bars, with head and divergent legs, and then bending the latter to the required position. 2nd. A staple cut in one piece, from bar metal, and having a flat head *b*, sloping shoulders *c c* and parallel legs *d d*.

**No. 14,650. Improvements in Tow Boats.** (*Perfectionnements aux remorqueurs.*)

Alexander McDougall, Cleveland, Ohio, U. S., 24th April, 1882; for 5 years.

*Claim.*—1st. A freight vessel, so constructed in its outline that the body of the hull has parallel sides for a considerable portion of its length, between the points where it tapers to form the bow and stern, which portion shall be semi-cylindrical above and ellipsoidal below the water mark or wales. 2nd. A freight vessel so constructed in its outline that its bow and stern formed by the continuation of its sides which are parallel for some considerable portion of their length, and of semi-cylindrical shape above, and ellipsoidal shape below the water mark, shall uniformly taper to a point above its bottom about two thirds the depth of the boat.

**No. 14,651. Improvements on Galvanic Batteries, and in the Treatment of Solutions Therefrom, for the Recovery of Useful Products.** (*Perfectionnements aux batteries galvaniques et dans le traitement des solutions qui en proviennent, pour récupérer des produits utiles.*)

James Higgin and Alfred J. Higgin, Manchester, Eng., 24th April, 1882; for 5 years.

*Claim.*—1st. In batteries having tin for the positive element, and cells charged with dilute acid and pyrolusite and producing protosulphate of tin, which can be treated to obtain useful salts of tin. 2nd. In batteries having tin for the positive element, and cells charged with solutions of persulphocyanide of iron alone or in conjunction with pyrolusite. 3rd. In batteries having tin for the positive element, and cells charged with certain solutions which will absorb hydrogen, such as solutions of persulphate, perchloride, peracetate or pernitrate of iron, alone or in conjunction with pyrolusite. 4th. Treating the spent solutions of such batteries in order to obtain useful salts of tin, such as stannic acid or oxide, bichloride of tin, protochloride of tin stannate of soda, stannate of potash. 5th. Treating the spent solutions of such batteries in the various ways set forth, in order to obtain a copper salt which may be used in dyeing and calico printing, and for other purposes. 6th. Batteries having tin and copper elements excited by solutions of caustic soda or potash, and having pyrolusite in the cell or cage forming the copper element, and producing stannate or stannite of soda or potash. 7th. Batteries having tin and carbon elements, excited by combined solutions of caustic soda or potash, and nitrate of soda or potash, and producing stannate or stannite of soda or potash. 8th. The use of persulphocyanide of iron as an absorbent of hydrogen in galvanic batteries.

**No. 14,652. Improvements in the Manufacture of Vegetable Fibre for Upholstery.** (*Perfectionnements dans la fabrication de la fibre végétale pour les tapisseries.*)

John G. Stevens, Jersey City, N. J., U. S., 24th April, 1882; (Re-issue of Patent No. 12,748.)

*Claim.*—The new article of manufacture, consisting of the fibre of vegetable substances or animal hair, when crimped or corrugated for upholstery and other like purposes, as distinguished from the roped or twisted fibre used for said purposes.

**No. 14,653. Taper Manufacturing Machine.** (*Machine à fabriquer les cierges.*)

Jean B. Lannier, St. Athanase, Que., 24th April, 1882: (Extension of Patent No. 7603.)

**No. 14,654. Improvements on Metal Barbed Fencing.** (*Perfectionnements aux clôtures métalliques barbelées.*)

Thomas C. Hewitt, (Assignee of Joseph F. Walmsley,) London, Ont., 24th April, 1882; for 5 years.

*Claim.*—The loose barb *C* having points *D E* projecting in any direction therefrom, secured to the flat strip *A* of a fence by means of slits *a a*, through which said barb is inserted and held in place by intervening flat surface *B*, the whole being afterwards rolled and galvanized.

**No. 14,655. Improvements in Means for Protecting Lightning Arresters.** (*Perfectionnements dans les moyens de protéger les paratonnerres.*)

Charles T. Fitch, Harlow, C. Palmer and Samuel H. Cowles, Buffalo, N. Y., U. S., 24th April, 1882; for 5 years.

*Claim.*—As a means of protecting lightning arresters, located upon working circuits, from dust, insects, moisture, etc., the cross-arm of a telegraph pole provided with a recess to receive the lightning arrester therein, and having a suitable cover which forms with the recess an enclosure for such lightning arrester.

**No. 14,656. Improvements in Running Gears for Vehicles.** (*Perfectionnements aux trains des voitures.*)

The Herbrand Company, (Assignee of Jacob Herbrand,) Fremont, Ohio, U. S., 24th April, 1882; for 5 years.

*Claim.*—The upper fifth wheel plate *F* constructed with the lateral flanges *f*, the front eye or lug *D* and the rearwardly extending arm or plate *G*, in combination with the head block *R* held between said flanges, the reach *A*, the brace or bolt rising from the latter and secured to the lug *D*, the lower fifth-wheel plate *I* and the king bolt *J*.

**No. 14,657. Improvements in Cable Railways.** (*Perfectionnements aux chemins de fer à traction de câble.*)

Worcester Haddock, Jacob Frank, Cincinnati, Ohio, and Isaac Frank, New York, U. S., 24th April, 1882; for 5 years.

*Claim.*—1st. In cable railways, the combination of one cable and the car, and two gripping devices, one located at the forward portion of the car, the other being located in the rear of the forward one. 2nd. In combination, with suitable supporting devices, the shoe *D* provided with pulleys *e e*, and a device for causing the cable to be gripped between them or released therefrom. 3rd. In combination with the suitable supporting devices, the shoe *D* provided with suitable frictional devices, and the lever *h*. 4th. In combination with suitable supporting devices, the shoe *D* provided with pulleys *e e*, and the lever *h*. 5th. In combination, the shank *C* provided with slot *d*, and supporting bracket provided with bolt *d*, and suitable device for gripping the cable. 6th. The combination of the bracket *B* and shank *C*, and devices for gripping the cable. 7th. The combination of the bracket *B* hinged at one end and provided with bolt *b* and spring *b*, for supporting cable gripping devices. 8th. The combination of the bracket *B*, shank *C* adjustable therein, shoe *D* and lever *h*, said lever being provided with means for causing it to depress the rear end of the shoe. 9th. The shoe *D* provided with stirrup *e* and suitable non-frictional devices for gripping the cable. 10th. The combination of the shoe *D*, pulleys *e e* and stirrup *e*. 11th. The combination of the shoe *D*, stirrup *e* and rod *f*. 12th. The combination of the shoe *D*, stirrup *e*, rod *f*, lever *g*, rod *g*, lever *g*, rod *g* and hand lever *g*. 13th. The combination of the bracket *B* provided with brace *f*, shank *C*, shoe *D*, stirrup *e* and rod *f*. 14th. The combination of the shank *C* vertically adjustable, and catch *p*. 15th. The combination of the vertically adjustable shank *C* and catch *p* and rod *p*, crank *p*, shaft *p*, lever *p* and treadles *p*. 16th. The combination of the shoe *D*, non-frictional devices as pulleys *e e*, lever *h*, cord *h*, drum *h*, shaft *h* and hand wheel *h*. 17th. The combination of the shoe *D*, non-frictional devices as pulleys *e e*, lever *h*, cord *h*, shaft *h*, drums *h* and *K*, and lever *h*, and devices for turning the latter. 18th. In combination with shoe *D*, non-frictional devices as pulleys *e e*, lever *h*, cord *h*, shank *C*, pulley *K* and drums *K*, and devices for turning the latter. 19th. In combination with two separate and independent sets of gripping attachments, the rod *g*, cords *h*, cord *k*, pulleys *k*, drum *h* and shaft *h*; and shaft rod *g*, and devices for turning said shafts. 20th. In combination with the two independent and separate set of gripping attachments, the rods *g*, cords *h*, cords *k*, pulleys *k*, drums *h* and *K*, and shafts *h* and *h*, and devices for turning said shafts, and catches *p*, rods *p*, lever *p*, shaft *p*, levers *p* and treadles *p*. 21st. The bracket *B* provided with several arms or wings *a*, affording a broad light bearing, and the slotted centre piece *a* for receiving shank *C*, supporting the devices for immediately gripping the cable. 22nd. The bracket *B*, provided with wings or arms *a*, and the slotted centre piece *a* for receiving the shank *C*, and made with closed sides for keeping out the dirt.

**No. 14,658. Improvements in Hay Presses.** (*Perfectionnements aux presses à foin.*)

James E. Treuholm, Point de Bute, N. B., 25th April, 1882; for 5 years.

*Claim.*—1st. The dropping of the rear end of the traverser *F* by means of the curved track *u u*, the wheel *w* and the guiding block *Z*, or by any equivalent means. 2nd. The connection of the feeder frame *F F* to the connecting rods *b b* by means of the links *l l*. 3rd. The guiding of the position of the feeder *P* by means of the eccentric, the eccentric rod *n*, the lever *m* and the rod *o*. 4th. The holder *h* pivoted by the arms *h h* at the points *h h*, and the folder *r* acting in concert with it.

**No. 14,659. Improvements on Steaming, Cleansing and Drying Casks.** (*Perfectionnements au vaporisation, nettoyage et séchage des futailles.*)

William Ellis, St. Catharines, Ont., 26th April, 1882; for 5 years.

*Claim.*—In combination with a steam and water boiler, the arrangement of the main supply pipe *C*, branch *D* having nozzles *E*, branch *F* connecting with supply pipe *C*, branch *G* connecting with a hot water boiler, branch *J* passing through a super heater *I* and connected with branch *D* for rinsing, steaming, and drying casks placed in a row upon skids *B*, the nozzles *E* of branch *D* entering the bung hole of each cask and supplied with water or steam from both ends of the pipe.

**No. 14,660. Improvements on Broad Cast Sowers.** (*Perfectionnements aux semoirs à la volée.*)

John C. Waddell, Union City, Ten., U. S., 26th April, 1882; for 5 years.

*Claim.*—The combination, with the revolving cross-spout O and the discharge tube B, of the seed receiver A, of the hinged frame P carrying plate Q, the cord R and the right angled lever S having a weight T attached to its free arm, whereby the seed discharge opening is opened and closed by the starting and stopping of the driving mechanism.

**No. 14,661. Improvements in Door Fasteners.** (*Perfectionnements aux fermetures des portes.*)

Joseph Savoie, St. Marcel, Que., 26th April 1882; for 5 years.

*Claim.*—1st. The combination of a flat shanked screw bolt having hooked or barbed head, and a plate of sufficient size and thickness, and of any suitable shape and finish, acting as a nut. 2nd. The construction of the bolt B, having one side of the shank straight and a barbed head or hook on the other side, the portion of the shank between the screw and head being recessed to reduce that portion of the shank to a minimum thickness.

**No. 14,662. Improvements on Road Carts.**(*Perfectionnements aux cabriolets.*)

John P. Callan, Aurora, Ill., U. S., 26th April, 1882; for 5 years.

*Claim.*—1st. In a road cart or two wheeled vehicle, a body hung between the hills, and supported upon springs both at its front and at its rear. 2nd. A body hung between the hills, and supported upon springs at front and rear, and adapted in case the springs break, to drop forward of its axle and to be upheld by the axle and by a cross-bar. 3rd. In combination with the body, the rear springs c made in the form of a figure 5, the body resting on the horizontal portion of one extremity of the spring, and the other extremity being secured or clipped to the axle. 4th. The spring c made in the form described, the straight or horizontal part being adapted to be applied directly to a horizontal part of the body of a vehicle.

**No. 14,663. Improvements on Washing Machines.** (*Perfectionnements aux laveuses.*)

John H. Atwater, Meaford, Min., U. S., 26th April, 1882; for 5 years.

*Claim.*—1st. The tub A B, the cylinder of corrugated rollers G, the flexible chain rollers L, the endless apron K and a driving mechanism. 2nd. The combination, with the tub A B, of the cylinder of corrugated rollers G, the flexible chain of rollers L, the endless apron K and the crank shaft J, and gear wheel I H, whereby the clothes will be carried between the said rollers and cylinder by the said endless apron, and quickly and thoroughly washed. 3rd. The hook rods N, attached to the flexible chain of rollers L, the straps O, the shaft P, the strap R and the spiral springs S, combined in a washing machine.

**No. 14,664. Improvements on Cork Cutters.**(*Perfectionnements aux découpoirs pour les bouchons.*)

Randall S. Noyes, Brooklyn, N. Y., U. S., 26th April, 1882; for 5 years.

*Claim.*—1st. The combination, with the arbor G, of the tubular sliding head I provided with projection g and nut h. 2nd. The combination, with the arbor G provided with hollow head d and cap f, and cutter H, of the sliding head I provided with projections g, nut h, connecting rod N, shaft M and disk M', provided with crank pin m. 3rd. The combination, with the sliding head I, nut h, arbor and cutter G H and connecting rod N, of the guide block K.

**No. 14,665. Improvements on Reed Organs.**(*Perfectionnements aux orgues à tuyaux.*)

Augustin Newell, Chicago, Ill., U. S., 26th April, 1882; for 5 years.

*Claim.*—1st. A reed organ having the bellows reservoir composed of board B that forms the front of the organ case, strip d, back board C and spring G. 2nd. The perforated strip d of the bellows reservoir, and the board t of the feeders D secured thereto, in combination with the pedals E E', each rigidly connected with a feeder board t, by a block u. 3rd. The combination, of the feeders D D', pedals E E', block u, base strip c and wire F. 4th. The swell cap Q pivotally connected to the rear edge of the reed board H, and having pending arm y, in combination with the back board C, having pin r. 5th. The key board J having grooved strip j, in combination with the keys M, having tapering rear ends that enter said groove and form a pivotal connection therewith. 6th. The combination of the key board J, reed board H, bridge board N constructed and arranged to conceal the rear ends of the keys and also to form a supporting shelf for the reed music, the swell cap Q pivotally connected to said reed board and having arm q, and the back board C having pin r. 7th. The combination, with the bridge board N, of the cover or lid P pivoted above said bridge board, so that when opened it forms the music desk. 8th. The reed board H formed of a single piece of wood grooved from the top and slotted in the rear, so as to form reed cells that are opened on top, with side grooves in the bottom for holding the reed with the front end of the reed frame close upon the projecting base strip formed to said board. 9th. The combination of the reed board H, key board J and swell cap Q pivotally connected to the rear edge of said reed board. 10th. The key board J and reed board H with pivoted swell cap Q having arm q, in combination with the back board C of the bellows reservoir having pin r. 11th. The case for a reed organ composed of standards A, back a, front B, forming one side of the bellows reservoir, throat board b and base strips c, all connected by wood screws.

**No. 14,666. Improvements on Churns.**(*Perfectionnements aux barattes.*)

Oliver Haley and Mark Teakles, Sussex, N. B., 26th April, 1882; for 5 years.

*Claim.*—1st. The combination, with the lever F operated and operating as described, of the counterpoise G. 2nd. The arrangement of the adjustable pivoting at K with the device for varying the length of the stroke at J, in combination with the fly-wheel, pitman, lever and counterpoise.

**No. 14,667. Improvements on Steam Engine Governors.** (*Perfectionnements aux gouverneurs des machines à vapeur.*)

Pardon Armington, Providence, R. I., U. S., 26th April, 1882; for 5 years.

*Claim.*—1st. The combination, with the centrifugally operated weight of main and secondary eccentrics, both actuated thereby, the former being movable about the latter, which is itself movable about the main shaft. 2nd. The combination, with the connected centrifugal weights, of the two eccentrics, one mounted upon the other, and both connected by links with the said weights and moved simultaneously thereby. 3rd. The shaft, and main, and secondary eccentrics thereon, combined with means to move the said eccentrics simultaneously, the said eccentrics being proportioned, and their independent movement governed, whereby the resultant movement of the main eccentric relative to the main shaft is substantially rectilinear. 4th. The governor frame or wheel provided with spring abutments, and the weights pivoted to the said wheel combined with the links, and their bearing heads connected with the said weights, and the springs interposed between the said bearing heads and abutments, whereby the said springs are enabled to act under compression.

**No. 14,668. Improvements in Hasp Locks.**(*Perfectionnements aux serrures à morillon.*)

John G. Krichbaum, Youngtown, Ohio, U. S., 26th April, 1882; for 5 years.

*Claim.*—In a hasp lock, the combination of the bolt plate, the spring for moving it in one direction, the tumbler pivoted to the bolt plate, the fixed post for engaging the tumbler, and the trigger for freeing the tumbler from the post, so that the bolt can be shot by its spring.

**No. 14,669. Improvement on Water Purifying Apparatus.** (*Perfectionnements aux appareils à épurer l'eau.*)

Sidney E. Collins, Marion, S. C., U. S., 26th April, 1882; for 5 years.

*Claim.*—The combination of the horizontal perforated distributing tube A, vertical supply tube B, and air forcing apparatus D, with a well or cistern.

**No. 14,670. Dishes for Grocers' Use.**(*Ustensiles à l'usage des épiciers.*)

Chalmers Ingersoll, Beloit, Wis., U. S., 25th April, 1882; (Extension of Patent No. 7406.)

**No. 14,671. Process for Treating the Wood-work of Carriage, &c.** (*Procédé de traitement des bois de voitures, &c.*)

Patrick O'Brien, South Bend, Ind., U. S., 26th April, 1882; (Extension of Patent No. 7382.)

**No. 14,672. Improvements on Stovepipe Fitters and Lid Lifters.** (*Perfectionnements aux appareils à ajuster les tuyaux de poêles et lever les couvercles.*)

William Volk, Toronto, Ont., 27th April, 1882; for 5 years.

*Claim.*—The lever D pivoted to the flange C and having a corrugated end, to correspond with the corrugation formed on the inside surface of the flange B, in combination with the lever E pivoted to the flange B, and having its end shaped to form a lid lifter.

**No. 14,673. Improvements on Mop Wringers.**(*Perfectionnements aux essor-uses à torchons.*)

Henry Taylor, London, Ont., 28th April, 1882; for 5 years.

*Claim.*—1st. The combination of the levers H H provided with foot board M, strips N N, bent frame pieces B B, bearings E E and rollers F F. 2nd. The combination of the base board X, vessel A, brackets K K and levers H H.

**No. 14,674. Improvements on the Process of Manufacturing Car Wheels and Moulds Therefor.** (*Perfectionnements au procédé de fabrication des roues des chars et aux moules pour cet objet.*)

Lucius W. Washburn, Boston Mass., U. S., 27th April, 1882; for 5 years.

*Claim.*—1st. The process of constructing car wheels, by casting the central body portion from soft iron poured into the mould, then casting a steel tire therein, so as to remelt the periphery of the body first cast, whereby a perfect union of the two metals is formed. 2nd. The above described mould for casting car wheels from two metals, consisting of the combination, with the base A and cope G of the mould, of the stop ring having a horizontal flange B and internal inclined

faces F and C, united by the horizontal face or shoulder D, formed of one continuous piece of metal.

**No. 14,675. Improvements on Fishing Apparatus.** (*Perfectionnements aux engins de pêche.*)

Henry H. Willard, Cape Elizabeth, Me., U. S., 27th April, 1882; for 5 years.

*Claim.*—The bag N in combination with the seine O, the lace lines I D, the grommets L L' Lu, the out hauls G G', the booms C C', the head line H, the corks M M', the supporters E E' and the guys D D'.

**No. 14,676. Cloth Exhibitor.** (*Étalage de drap.*)

Hugh Mitchell, Fergus, Ont., 27th April, 1882; for 5 years.

*Claim.*—1st. A series of horizontal bars A, supported by four uprights B and forming an open rectangular frame carried by the base plate C, having on its bottom surface a series of friction rollers D, arranged on a circle, in combination with the bed plate E having a circular track formed upon its top to receive the friction rollers, and a centre pin F upon which the base plate C is pivoted. 2nd. A series of horizontal bars suitably supported and braced together, so as to form a number of cloth supporters, in combination with a base plate or its equivalent, suitably pivoted.

**No. 14,677. Improvements in Spark Extinguishers.** (*Perfectionnements aux extincteurs des flammèches.*)

Isaac Deyell, St. Thomas, Ont., 27th April, 1882; for 5 years.

*Claim.*—1st. The steam receptacle b, having the exterior steps or shoulders b' and C so arranged thereon as to leave the annular space c', the whole being connected with the source of steam supply through pipe d, and the coil of perforated pipe f connected with the source of supply. 2nd. The steam receptacle b suitably secured to the interior of the smoke stack, and having the exterior steps or shoulders b' and cap c so arranged thereon as to leave the annular space c', the whole being connected with the source of steam supply through pipe d, the coil of perforated pipe f also connected with the source of supply, and the converging flange or liner a' secured at or near the upper edge of the top piece a'. 3rd. The steam receptacle b provided with the series of steps or shoulders b', the cap c and the annular space or opening c'. 4th. The steam receptacle b provided with the series of steps or shoulders b', the annular space or opening c' and the perforated cap c'. 5th. The combination of the smoke stack a provided with the converging flange or liner a', with the steam receptacle b, cap c, annular space c' and pipe d connected with the source of steam supply. 6th. The combination of the smoke stack a provided with the converging flange or liner a', with the steam receptacle b, cap c, annular space c', pipe d and the coil of perforated pipe f, the pipes d and f, being suitably connected with the source of steam supply. 7th. The combination of the spark extinguisher, with the smoke stack having the converging or liner a' provided or not with the perforations a'', and the adjustable top piece a' hinged to the smoke stack a.

**No. 14,678. Improvement in Stock Cars.**

(*Perfectionnements aux chars à bestiaux.*)

Henry C. Hicks, Minneapolis, Min., U. S., 27th April, 1882; for 5 years.

*Claim.*—1st. The partitions B' B<sub>2</sub> provided with the pivots a<sub>3</sub> a<sub>4</sub>, hooks a<sub>5</sub> and extension rod a<sub>2</sub>, whereby they may be readily removed or inserted into the car. 2nd. The combination and arrangements of the rollers G, slings I' I<sub>2</sub> and springs H. 3rd. The combination, with the partitions B' B<sub>2</sub> provided with the pivots a<sub>3</sub> a<sub>4</sub>, hooks a<sub>5</sub> and extension rod a<sub>2</sub>, of the feed receptacles a' having the spring followers a<sub>5</sub> a<sub>6</sub> and retarding fingers a<sub>7</sub>.

**No. 14,679. Improvements in Rubber Boots and Shoes.** (*Perfectionnements aux chaussures en caoutchouc.*)

Frederick Richardson, Providence, R.I., U.S., 27th April, 1882; for 15 years.

*Claim.*—1st. A rubber boot or shoe, the heel of which is provided with a metal wearing surface secured by cementation, as a new article of manufacture. 2nd. The combination, with a rubber boot or shoe, of a heel provided with a metal wearing surface, secured partly by cementation and partly by means of nails. 3rd. The improvement in the art of making rubber boots or shoes, the same consisting in impressing depressions on the sole, or the heel, or on both, and cementing within the same a plate, frame or strips, forming part of a metal wearing surface, constructed to protect the heel. 4th. The combination, with a boot or shoe, of the heel heel B having the lap A made of hard cast metal and provided with two marginal wearing surfaces secured by means of a screw. 5th. The improvement in the art of securing metal to rubber or *visc. perna*, the same consisting in freeing the metal from scale and oxides by an acid bath, covering the metal with rubber cement, and securing the rubber to the metal by cementation. 6th. The improvement in the art of securing metal to rubber, or *visc. perna*, the same consisting in freeing the metal from scales and oxides by an acid bath, covering the same with cements, and pressing a thin sheet of soft rubber on the metal with heat, and then cementing the desired rubber and metal together before vulcanization.

**No. 14,680. Improvements in Machines for Cutting Green Corn.** (*Perfectionnements aux machines à couper le blé d'inde vert.*)

Welcome Sprague, Farnham, N.Y., U.S., 27th April, 1882; for 5 years.

*Claim.*—1st. In a machine for cutting green corn from the cob, the combination, with self-adjusting cutters, of an endless feed belt g and

feed wheels f arranged between the feed belt and the cutting mechanism. 2nd. In a machine for cutting green corn from the cob, the combination, with self adjusting cutters and scrapers, of a feed trough G and endless feed belt g arranged in said trough with its upper portion exposed to receive the ears of corn. 3rd. The combination, with the self adjustable cutter h, of self adjustable feed wheels f mounted on swinging arms E. 4th. The combination, with the cutters h and scrapers L M arranged in rear of the cutters, of feed wheels arranged between the several sets of cutters and scrapers. 5th. In a machine for cutting green corn, the combination, with the cutting mechanism, of a feed belt and feed wheels, whereby the ears are fed between the cutters and feed wheels, and scrapers arranged in rear of the cutters. 6th. The combination, with the stationary ring C and movable ring D, of the arms E pivoted to the ring C and attached with their outer ends to the ring D and guide plates e, and feed wheel f mounted on the inner ends of the arms E. 7th. The combination with the stationary ring C and movable ring D, of guide plates e and feed wheels f mounted on self-adjustable arms H. 8th. The combination, with the stationary ring C and movable ring D, of guide plates e and feed wheels f mounted on arms E, cutters h mounted on arms H, and spring h' and shoulders h<sub>2</sub>, whereby the arms H are connected with the ring D. 9th. The combination, with the arms E, of the shafts e' on which said arms turn, shafts f' supported in the arms E, feed wheels f' secured to the inner ends of the shafts f', and gear wheel f<sub>3</sub> f<sub>4</sub>, whereby the shafts f', f<sub>3</sub> are connected. 10th. The combination, with the feed wheels f, of guide plates e' provided with slots f<sub>2</sub> through which the feed wheels project. 11th. The combination, with the cutting and scraping mechanism, of feed wheels K N N<sub>2</sub> made self-adjusting toward and from each other. 12th. The combination, with the rings C, of the sleeve R secured thereto, shafts e', whereby the feed wheels f are driven, and a gear wheel T turning on the sleeve R and meshing with wheels t mounted on the rear ends of the shafts e'.

**No. 14,681. Improvements in Telephone Transmitters.** (*Perfectionnements aux transmetteurs téléphoniques.*)

Joseph Olmsted, New York, U.S., 27th April, 1882; for 15 years.

*Claim.*—1st. A compound electrode for a telephone transmitter consisting of a number of simple independently yielding electrodes, in combination with a common adjustable support for said electrode. 2nd. A compound electrode for a telephone transmitter, consisting of a number of simple freely pivoted electrodes, resting by the action of gravity upon the opposite electrode, in combination with a common adjustable support upon which said electrodes are pivoted. 3rd. A compound electrode for a telephone transmitter, consisting of a series of parallel independently pivoted carbon plates, fixed upon a common support and resting with their edges against the opposite electrode. 4th. A compound electrode for a telephone transmitter, consisting of a number of parallel pivoted plates formed of carbonized card board, paper or equivalent material and resting with their edges against the opposite electrode. 5th. The combination of an electrode connected with the diaphragm of a transmitter, and an electrode consisting of a thin pivoted plate resting with its edge against the first electrode. 6th. A contact electrode for a telephone transmitter, consisting of a plate of carbonized card board or paper, resting with its edge against the opposite electrode. 7th. The combination of a compound electrode, consisting of a series of light pivoted parallel plates, an electrode connected to a diaphragm against which electrode the parallel plates bear with inclined edges, and an adjustable support for said pivoted electrodes, adjustable to and from the electrode connected with the diaphragm. 8th. The combination of a series of parallel pivoted plates, a cross bar connected to a diaphragm, against which bar the edges of the pivoted plates rest, a conducting bar upon which the pivoted plates are strung, and supports for said conducting bar adjustable longitudinally.

**No. 14,682. Improvements on Button Hole Sewing Machines.** (*Perfectionnements aux machines à coudre les boutonnières.*)

John Reece, Boston, Mass., U.S., 27th April, 1882; for 5 years.

*Claim.*—1st. In a button hole sewing machine, a bed plate upon which the material is held, a frame work, a reciprocating needle bar, its two needles one to penetrate the fabric, the other to pass over the edge to be over stitched, and the loop spreader, a looper carrier and hooked looper, and means to move the said frame work longitudinally upon said bed plate and to operate the said spreader and looper carrier, and reciprocate the needle bar, whereby the spreader lays the loops of one needle thread back upon the material before the needles descend, and the looper engages the loop of the perforating needle below the material, and draws it through the loop of the over edge needle, and holds it while the needles are drawn up above the material until after the next descent of the needle bar, when the loop of the perforating is drawn through its previous loop, held by the said looper. 2nd. A cloth holding clamp connected with the bed plate, the reciprocating needle bar, its two needles d d', the looper carrier and looper, and the movable frame carrying the said needle bar and looper carrier, combined with means to partially rotate the said needle bar and looper carrier, and to move the said frame and the sewing parts longitudinally. 3rd. The frame, the needle bar for the two needles d d' and the looper carrier, and the pinions connected with the needle bar and looper mechanism, combined with the sectors to partially rotate the needle bar and looper devices in unison, and with means to reciprocate the needle bar and vibrate the looper carrier. 4th. The movable frame work, reciprocating needle bar provided with two needles, looper carrier vibrated from a point coincident with the axis of the needle bar, and devices to partially rotate the said needle bar and looper carrier at the proper times, combined with a rotating cam disk to reciprocate the frame work and stitching devices in the direction of the length of the button hole to be made, and the rock shaft l mounted on the movable frame and adapted to vibrate the movable frame laterally, and with it the stitching mechanism above and below the material, whereby the said stitching mechanism is caused to travel, at first along one edge of the slit, and

then along the other side of the slit. 5th. A frame work for the needle bar and looper, and a bed plate to hold the material, combined with two cams and with mechanism between the said cams and frame work, whereby the needle bar, by the movement imparted to it longitudinally and laterally of a button hole by the said frame, is caused to travel backward in a straight line until near the eye of the button hole, then backward, outward and inward, then forward and inward to follow the contour of the edge of the enlarged eye part of the button hole, and then forward in a straight line along the other side of the button hole. 6th. The bed plate and clamp secured to it, the frame work and its over stitching mechanism, composed essentially of a reciprocating needle bar, having two needles *d* and *d'* and the looper carrier and looper, the stud *l* on the frame work, rigidly connected arms *ll* 12, a rotating disk provided with grooves *67* to act upon the said stud and arms, and move the frame work longitudinally, and laterally combined with means to partially rotate the said needle bar, looper carrier and looper at the proper time to enable the needles and looper to be turned at the eye of the button hole, to stitch about the said eye. 7th. The needle bar and an over stitching needle, combined with a penetrating needle, a spring arm secured to said needle bar and carrying said penetrating needle, and an adjusting device for moving the spring arm and its needle, to vary the distance between the needles, to form deeper or narrower stitching about the button hole. 8th. The needle bar provided with the shoulder *ds* and pin *h'*, means to reciprocate it, the partial gear connected with the said needle bar, and means to partially rotate the said gear and needle bar, combined with the guide *ds*, and spreader *ds'* connected with the said gear. 9th. The looper carrier and looper, the partial gear *g'* provided with shaft *g5* upon which the looper carrier is supported, and the arm *g3* having a ball like termination combined with the vibrating lever *g* and sector *e2*, and means to move the said lever and sector to enable the looper to be vibrated during the partial rotation of the said gear. 10th. The looper carrier and its connected lever *g* combined with the shaft *a2*, the disk *f*, the link *f2*, eccentric *f3* thereon, the journal *f1*, arm *f8*, pin *f5* and the link *fo*. 11th. A clamp and bed plate to hold the material, the frame work *a*, the button hole cutting device connected therewith, combined with a cam disk to operate the said button hole cutter, to cut a slit in the material held by the said clamp, and then to move said frame work longitudinally upon said bed plate, to remove the blade of the cutter from above the clamp. 12th. The frame work *a* and bed plate *a'* and the cloth clamping mechanism movably connected with the bed plate, combined with the cutting bed and means for moving the cutting bed and frame longitudinally with relation to the cloth clamping mechanism, the said cutting bed being provided with inclines or projections to act upon the clamp and spread the button hole, as the relative positions of the bed plate and frame work are changed longitudinally. 13th. The bed plate and frame work are changed longitudinally. 13th. The main shaft *a2*, the belt pulley loose on the said main shaft, the disk or pulley *ra* fixed to said shaft, and means to connect it with, or disconnect it from the loose pulley, the stopping lever *s* and its spring, the movable frame work which carries the needle and looper mechanisms, and means to move the said frame work, in combination with the controlling bar, whereby the belt pulley is disengaged from the fixed pulley *ra*, to enable the shaft *a2* to remain at rest while the belt pulley continues to run loosely on the said shaft. 14th. In the sewing for stitching button holes, the adjustable controlling bar provided with the incline and shoulder, and elevated part *16* combined with a stopping lever, and acted upon by the controlling bar and with the clutch pulley mechanism, whereby the stitching parts may be driven or remain at rest. 15th. The pivoted controlling bar, and its ledge *13*, and the spring pin, combined with the shaft *a'* of the sectors, to vibrate it at the proper time. 16th. The needle bar *b1*, its central thread it receiving orifice *b2* and guide *b3*, the vibrating loop spreader, the two eye pointed needles carried by the said needle bar, the looper to engage and concentrate the two needle threads together, below the material in the formation of the stitch, and means to operate the said parts to form a stitch entirely from the two threads carried by the two needles, combined with the tension device composed of two connected pulleys adapted to move in unison with each other, one for each of the two threads composing the button hole stitch, and with a nut and spring co-operating therewith, to control the power required to turn the said tension devices together, the movement of the said connected tension devices delivering each a regulated amount of the two threads under uniform tension. 17th. The frame of a sewing machine carrying the operative parts thereof, and having a longitudinal reciprocating and a periodical lateral oscillating motion, constructed with two arms, one of such arms carrying a reciprocating needle bar above the cloth plate, and the other arm carrying a looping mechanism below the cloth plate. 18th. The frame of a sewing machine constructed with two arms, one arm carrying above the cloth plate a reciprocating needle bar, having a periodical rotary motion, and the other arm carrying below the cloth plate a looping mechanism having a rotary motion in unison with that of the needle bar. 19th. In a button hole sewing machine, the combination, with stitching mechanism, of a starting and stopping device to automatically start and stop the operation of the stitch forming mechanism, the mechanism that controls the length of the stitch being unaffected thereby. 20th. A main shaft, a belt wheel and its eccentric or cam adapted to be disconnected from said shaft, combined with connecting means to operate the cutter and bring the needles to the starting point, and adapted to be periodically connected with the main shaft to impart rotary motion to it, to operate the stitch forming mechanism.

**No. 14,683. Improvements on Water Wheels.**  
(*Perfectionnements aux roues hydrauliques.*)

Abel Edwards, Summerset, Iowa, U.S., 27th April, 1882; (Extension of Patent No. 7391.)

**No. 14,684. Improvements in Car Couplings.**  
(*Perfectionnements aux accouplages des chars.*)

James Terry, Mount Forest, Ont., 28th April, 1882; for 5 years.

*Claim.*—1st. The sliding stop block B having the opening c, shoulders *d* and *e* and the wing *f*. 2nd. The rock shaft C having the limb *g* and crank *l*. 3rd. The removable bushing *p*. 4th. The arrangement and combination of the stop block B having the opening c, shoulders *d* and *e*, wing *f* with the guiding pin *b* and worm spring *h*.

**No. 14,685. Improvements in Folding Chairs.** (*Perfectionnements aux pliants.*)

Eber C. Flint, Saginaw, Mich., U.S., 28th April, 1882; for 15 years.

*Claim.*—The front and rear legs *a* and *a'* pivoted together at *a3* and the seat *a*, the seat having projections *b* and notch *b2* and pivoted to the upper ends of the rear legs, the front legs being provided with notches *b'* and spring fastening *B*.

**No. 14,686. Machine for the Manufacture of Small Lumber.** (*Machine pour la fabrication du menu bois de charpente.*)

Angus C. Campbell, North Esk, and Allan Ritchie, Newcastle, N. B., 28th April, 1882; for 5 years.

*Claim.*—1st. The combination of bottom feed rollers *m* and *n* Y and the device of top feed rollers or down holders. 2nd. The mode of driving bottom feed rollers *M* X and on the machine, in toto.

**No. 14,687. Improvements in Knives for Mowers and Reapers.** (*Perfectionnements aux couteaux des faucheuses-moissonneuses.*)

Arthur G. Ramsay, Brantford, Ont., 28th April, 1882; for 5 years.

*Claim.*—1st. In combination with mowers and reapers, a knife constructed with pins *D* in the lower bar *C*, and a hole *B* in each section *A*, for the reception of said pins, and a steel strip *E* screwed down over the top of the same. 2nd. A knife section *A* constructed with the beveled curved notches *d* *d'* the rear side tapers *a* *a'*, shoulders *b* *b'*, pin hole bevel *e* and rear bevels *e'*. 3rd. The combination of the cutting bar *C* and the tip strip *E*, with the sections *A* screwed to and between them.

**No. 14,688. Improvements on Harrows.**  
(*Perfectionnements aux herbes.*)

Aaron J. Nellis, Pittsburg, Penn., U.S., 28th April, 1882; for 15 years.

*Claim.*—1st. A harrow frame wherein the bars composing the frame cross each other, and the lower bars are arranged at an angle of from 30° to 40° to the line of draft. 2nd. The combination, with a harrow, of a draft bar connected thereto, by adjustable draft rods or links and draft brackets on the harrow back of its front end. 3rd. The spring tooth for harrows and like implements, in combination, with a coiled spring arranged opposite the face of the tooth, and attached to the short arm thereof. 4th. In a harrow or similar implement, the combination, with a crossed barred frame, of a spring tooth, or spring teeth, composed of a tooth section proper, and a coiled spring secured thereto, the coiled spring of the tooth arranged in the fork formed by the convergence of the cross bars, so as to be supported against lateral strain. 5th. The spring tooth, for harrows and like implements, composed of a cutting or tooth section proper, and a coiled spring section, the coil of the spring section arranged opposite the face of the tooth section, and the centre of the coil section below the suspension arms by which the tooth is attached to the frame. 6th. In a harrow or like implement, this combination, with the frame, of a spring tooth composed of a cutting or tooth section proper, and a coiled spring section secured thereto, opposite the face of the cutting section, the suspension arms of the spring section being arranged above the centre of the coil, and attached to the upper surface of the harrow frame. 7th. In a spring tooth for harrows, the combination of a cutting section proper, a spring section for attachment to the frame, an interposed adjusting block or saddle having a curved face, whereby the cutting section can be adjusted on the spring section in the arc of a circle. 8th. In a spring tooth for harrows and like implements, the combination of a spring section and a cutting section or tooth proper, the cutting section adjustable on the spring section in the arc of a circle, and also vertically, whereby, both the draft and cutting angle of the tooth can be changed. 9th. In a tooth for harrows and like implements, the combination of a cutting section having a curved heel, a coiled spring section having a vertical loop or arm, and an interposed saddle having a curved face to receive the heel of the cutting section. 10th. In a spring tooth for harrows, cultivators and like implements, the combination of a hooked section or tooth proper, and a coiled spring section having the vertical arm or loop for the attachment of the hook section, and the suspension arms which project at a right angle to the loop section and in a plane above the centre of the coil.

**No. 14,689. Improvements in Oatmeal Machines.** (*Perfectionnements aux machines à grain d'avoine.*)

Lucien G. Thorp, Akron, Frank N. Wilcox, Cleveland, and Charles O. Bartlett, Brecksville, U.S., 28th April, 1882; for 5 years.

*Claim.*—1st. A series of wheels with projecting rims indented with radial grooves and revolving vertically between partial partitions in a suitable shell, and one or more knives with their edges close to the peripheries of said wheels. 2nd. In combination with the shell and partial partition *F*, the series of vertical wheels *E* mounted on the rotary shaft, and having the grooves *e* in their edges, and their inclined knives *G* having their edges close to the peripheries of said wheels.

**No. 14,690. Improvements in Smoke Consumers.** (*Perfectionnements aux foyers fumivores.*)

The Tobey Furniture Company, (Assignee of Canute Olson,) Chicago, Ill., U.S., 28th April, 1882; for 5 years.

*Claim.*—1st. The steam heater *D* in combination with the shoe *D'* attached to the grate bars of the furnace, and the boiler *A* between which and the furnace wall the upper end of the heater is held. 2nd. An apparatus for consuming or preventing smoke, consisting of a single steam holder or receiver *D* arranged within the furnace and at



one corner of the draft end thereof, and provided with a horizontal fan jet nozzle D extending diagonally from the receiver and arranged just above the bed of coals, whereby the steam is superheated and then delivered in an unbroken horizontal sheet just over the coal bed but not in contact therewith. 3rd. In combination with the fire box of a furnace, a superheater, steam pipes for supplying said superheater, a discharge pipe attached to said superheater, having a horizontally slotted nozzle arranged a little above the grate, and adapted to discharge an unbroken and continuous sheet of steam horizontally over practically the whole fire.

### No. 14,691. Improvements on Fire Extinguishers. (*Perfectionnements aux extincteurs d'incendies.*)

Frederick Grinnell, Providence, R.I., U.S., 28th April, 1882; for 15 years.

*Claim.*—1st. In an automatic fire extinguisher, the combination of a diaphragm capable of yielding to the pressure of the fire extinguishing fluid confined by it, and the means or devices for keeping the fluid discharge valve closed, until the restraint, which the same exerts against the opening of the valve, is removed by the action of heat. 2nd. The combination of the movable cover of the fire extinguishing fluid discharge valve, and a deflector attached to and moving with such cover. 3rd. The combination of a diaphragm capable of yielding to the pressure of the fluid confined by it, a valve seat attached to, and forming a part of the yielding diaphragm, a valve cover closing the opening in the seat, and against which the seat is forced by the fluid pressure on the diaphragm, and levers for keeping the valve closed until released by the action of heat.

### No. 14,692. Improvements on Lubricating Cups. (*Perfectionnements aux godets à graisse.*)

Joseph L. Winslow, Portland Me., U.S., 28th April, 1882; for 5 years.

*Claim.*—The combination of the cup *k*, piston or flange *a*, wrench *d*, the same being constructed as described and to operate also in connection with the bottom plate *g*, having the duct *f* and projection *h*.

### No. 14,693. Sand Moulding Machine.

(*Machine à mouler le sable.*)

Joseph B. McCune and Richard M. Wanzer, Hamilton, Ont., 28th April, 1882; (Extension of Patent No. 7425.)

### No. 14,694. Improvements on Ditching Machines. (*Perfectionnements aux machines à fossayer.*)

Frederick W. Hales, Charlottetown, P. E. I., 28th April, 1882; for 5 years.

*Claim.*—1st. The frame A mounted upon rollers B, the shaft E working in adjustable bearings D, the large grooved wheel H having cross bar I, the hinged three armed bar J carrying the shovel K, the spring catches L M, the trip handles N, the draw chain P, capstan R and sweep U, the reversing weighted knives X, the rope Y and the pulley Z, the inner grooved wheel of H marked *a*, and the feed mechanism *b c d e f g h*. 2nd. The combination, with the carriage A B, of the large grooved wheel H having cross bar I and mounted upon a vertically adjustable shaft E, the hinged three armed bar J carrying shovel K and an operating mechanism, whereby the soil will be raised and discharged by the forward and backward movements of the said wheels. 3rd. The combination, with the wheel H carrying the three armed bar J and shovel K, of the chain P, capstan R and sweep U for turning the wheel forward, and the weighted knives X for turning it backward and cutting sods or roots. 4th. The combination, with the wheel H and the three armed bar J carrying shovel K, of the spring catcher L M and the trip handles N, whereby the position of the three arm bar J is changed. 5th. In a ditching machine, the combination, with the carriage A B and the capstan R, of the dogs *b*, the levers *c* and chain *e*, the pulley *f*, the weight K and the adjusting bar *h*, whereby the machine is fed forward at the proper time, and at such speed as may be desired.

### No. 14,695. Improvements on Compressed Air Water Elevators. (*Perfectionnements aux éleveurs d'eau à air comprimé.*)

William A. Bickford, Brantford, Ont., 28th April, 1882; for 5 years.

*Claim.*—1st. The combination of an air pump having inlet and out discharge valves F and G, with air pipe H, submerged cylinder I having valve J and water discharge pipe L. 2nd. In combination with a submerged cylinder I having inlet valve J, water discharge pipe L, and inlet air pipe H, an air pump having valves G F alternately opening and closing when the pump is in motion and, when at rest opened, by the piston C at its lowest position, striking on the valves, whereby the air in the submerged cylinder will escape through the valves, and permit the external pressure of water to force open the valve J and fill said cylinder with water. 3rd. The submerged cylinder I having a perforated rim K and an inlet valve J in the bottom of the cylinder. 4th. The pump cylinder B having an internal and exterior bottom intermediately perforated in the wall thereof, the internal bottom provided with inlet valve F and outlet valve G, a valve chamber connecting with pipe H. 5th. The discharge pipe bearing on the bottom of cylinder I and having notches M or holes to admit water.

### No. 14,696. Improvements in Undershirts. (*Perfectionnements aux camisoles.*)

Robert M. Appleton, Lake Village, N.H., U.S., 29th April, 1882; for 5 years.

*Claim.*—1st. In an undershirt or vest, the combination of the middle part made in plain stitch or knitting and the upper part made in tuck

stitch or knitting. 2nd. The combination of the middle part, made in plain stitch or knitting, and the lower part made in tuck stitch or knitting. 3rd. The combination of the middle part made in plain stitch or knitting, and the upper and lower parts made in tuck stitch or knitting. 4th. The middle part made in plain stitch or knitting and provided with widely separated lines of tuck stitch or knitting. 5th. As an article of manufacture, an undershirt or vest, whereby the middle part is made in plain stitch or knitting with widely separated lines of tuck stitch knitting, and the upper and lower parts in tuck stitch or knitting.

### No. 14,697. Improvements on Scufflers.

(*Perfectionnements aux houes à cheval.*)

Edward Moore, Uxbridge, Ont., 29th April, 1882; for 5 years.

*Claim.*—1st. In a scuffler, side beams arranged to hold the cutting knives, or their equivalent, and adjustably connected to the centre beam, in combination with adjusting mechanism, by which the outer beams are adjusted from or towards the centre beam without stopping the machine. 2nd. In a scuffler in which the scuffling attachments are connected to adjustable beams, the combination of jointed bars arranged to connect the scuffling beams to the centre beam, in order that the movement of the machine shall impart a refractory motion to the scuffling attachments. 3rd. In a plough having adjustable beams connected on either side of the centre beam, the combination of a double mould board bolted to the centre beams, and having its wings attached to the adjustable traces.

### No. 14,698. Improvement in Lubricators.

(*Perfectionnement aux godets à graisse.*)

Timothy Holland, Troy, N.Y., U.S., 29th April, 1882; for 5 years.

*Claim.*—1st. In a lubricator, a downward visible feed consisting of a transparent tube down which the oil is forced by means of the circulation of steam. 2nd. The condensing chamber C, reservoir E arranged with pipes *b* and *c*, and oil way *d*, in combination with the oil tube F, pipe G provided with valve *g* and the steam pipe A.

### No. 14,699. Improvement in Mosaics.

(*Perfectionnement des mosaïques.*)

George Stanley, Boston, Mass., U.S., 29th April, 1882; for 5 years.

*Claim.*—The mode of making a mosaic of glass, or other mineral substance, such consisting in arranging the pieces on an argillaceous and arenaceous bed, next coating the upper surfaces of the pieces with clay or other material suitable to prevent adhesion of the joining metal to such surface, next drying the whole and heating it to the temperature of the joining metal when in a molten state, and while such bed and pieces may be at such temperature, pouring upon the pieces of glass, and into the narrow spaces or channels between and around them, lead, or a joining metal, in a molten state, the whole being subsequently cooled and finished by removal of the surplus material.

### No. 14,700. Improvements in Lubricators.

(*Perfectionnements aux godets à graisse.*)

George W. Baker, Chicago, Ill., U.S., 29th April, 1882; for 5 years.

*Claim.*—1st. In a lubricator of the character described, the combination, with the oil reservoir A and the condensing or water chamber A', of the stand pipe A<sub>2</sub>, the inclosed tube *b* and the horizontal stem A<sub>1</sub>. 2nd. The combination, with the stand pipe A<sub>1</sub> inclosing the oil and water passages, of the horizontal stem A<sub>2</sub>, the inclosed pipe or tube B<sub>1</sub> and the coupling B. 3rd. In a lubricating apparatus adapted to be operated as described, the combination, with the water chamber thereof, of a water conducting pipe connected thereto, and extending to a point below the water line in the boiler, whereby a water column under the full boiler pressure is forced into the lubricator, for the purpose of expelling the oil therefrom. 4th. The combination, with the water chamber A, water pipes *b* *b*<sub>2</sub>, oil reservoir A and the transparent indicating tubes *a* *a*<sub>2</sub>, of a lubricating apparatus, of a water conducting pipe inserted in the shell of the boiler and extending to a point below the water line. 5th. The combination, with a lubricating apparatus, of the bell mouthed nozzle C<sub>1</sub>. 6th. The method of securing a uniform feed by having the oil passages, communicating with the parts to be lubricated, of a much less area than the steam and water connections operating the apparatus, whereby the excess of pressure prevents the back pressure in the oil passages from materially affecting a regularity of action. 7th. The combination, with a combined steam and water valve, of the connecting piece or part *b*<sub>2</sub> provided with the annular shoulder bearing *b*<sub>3</sub>, the swiveling collar *b*<sub>4</sub> and the water tube C<sub>2</sub>, whereby both the water and steam required to operate the lubricator are received through one and the same opening in the boiler. 8th. The combination, with the oil passage or passages of a lubricating apparatus, of the independent or auxiliary steam pipe D, whereby a jet of steam is injected into, and passes with the lubricant to the surfaces to be lubricated. 9th. The combination, with the T-coupling C, of the perforated plug valve D<sub>2</sub> provided with the stem D<sub>1</sub>, the arm D<sub>3</sub> and the bent lever D<sub>4</sub> connected with the throttle valve lever D<sub>5</sub>. 10th. The combination, with a plug valve inserted in the steam valve C<sub>2</sub>, of the connecting lever E and the throttle valve lever D<sub>5</sub>. 11th. A lubricating apparatus adapted to be automatically operated by means of a hydrostatic column or pressure consisting essentially of a transparent oil receptacle having a trapping device arranged on the interior thereof, for the purpose of retaining a portion of the product of condensation therein, and having a proper communication with a condensing or water chamber, receiving a direct water pressure by means of a water line inserted into the boiler and extending to a point below the water line thereof, whereby a uniform pressure is maintained at all times for the purpose of expelling the oil from the lubricator, the oil being distributed to both engines alike by means of a steam jet injected into the oil passages communicating with the surges to be lubricated.

**No. 14,701. Improvements on Steam Valves.**

*(Perfectionnements aux soupapes de vapeur.)*

Pardon Armington, Providence, K. I., U. S., 129th April, 1882; for 5 years.

*Claim.*—1st. In a steam engine, the combination, with the engine cylinder and a live steam port therein, of a valve cylinder and piston valve therein, having annular openings near its ends connected by longitudinal passages through its interior, and arranged relatively to the said valve cylinder and steam port, whereby, in the travel of the valve, the annular opening at one end thereof, passes out of its cylinder into communication with the steam chest when the annular opening at the other end of the valve is in communication with the said port, and the latter is being uncovered by the valve, thereby causing steam to be admitted to the port from the steam chest, at both ends of the said valve simultaneously. 2nd. The engine cylinder and live and exhaust steam ports therein, combined with the valve cylinder provided with annular depressions or port openings, entirely surrounding the said cylinder and communicating with the said live steam ports, and the piston valve therein having annular openings near its end, connected by longitudinal passages through the middle portion, which is of smaller external diameter than the bore of the valve cylinder.

**No. 14,702. Apparatus for Heating Railway Cars from the Locomotive.**

*(Appareil pour chauffer les voitures de chemin de fer par la locomotive.)*

Michael Hurley, Quebec, Que., 29th April, 1882; for 5 years.

*Claim.*—1st. The mode of heating railroad cars by steam, supplied by and from the locomotive by means of distributing and main leading heating pipes connected between each railroad car or train of cars, by an elastic elongating flexible and radiating link. 2nd. The combination of a tubular piston working in a suitable cylinder and packing chamber in same link. 3rd. The combination of suitable cup receivers and suitable cup screw retainers in same link. 4th. The combination of spiral spring with body of said link. 5th. The combination of outer shield or drum composed of vulcanized India rubber, or other pliable or elastic material. 6th. The combination of governing rod or line with check flange. 7th. The combination of indicator lever handle. 8th. The combination, of indicating and register table with the words (on) (off) affixed thereon. 9th. The combination of faucet and suitable construction of main leading steam supply pipe for its reception. 10th. The combination of safety escape valves on main and distributing pipes. 11th. The combination of coupling for main steam or hot air leading pipe to locomotive.

**No. 14,703. Improvements on Axles.**

*(Perfectionnements aux essieux.)*

Charles Cook, Winsted, Ct., U. S., 29th April, 1882; for 5 years.

*Claim.*—The flange F, in combination with the axle provided with the flanges D and E, and the axle box B closely surrounding said flanges, whereby the two enclosed grooves or channels G H are formed.

**No. 14,704. Improvements on Field Rollers.**

*(Perfectionnements aux rouleaux d'agriculture.)*

Andrew R. Moore, Charlotte, Mich., U. S., 29th April, 1882; for 5 years.

*Claim.*—1st. The combination, with the solid roller A provided with a longitudinal central aperture, and the frame C, of the hollow journals B secured to the said frame, and extending a short distance into the said aperture. 2nd. The combination, with the front frame C, provided with the plank E, of the rear frames C', the cross bars K between which the rear frames are pivoted the standards J and the plank H pivoted to the plank E and rigidly secured to the standards J and projecting in the rear of the said frames C.

**No. 14,705. Improvements on Churns.**

*(Perfectionnements aux barattes.)*

Anson W. Wright, Stirling, Ont., 29th April, 1882; for 5 years.

*Claim.*—1st. The adoption of the square box form A, in combination with the movable internal slots *u u u u*. 2nd. The adaptation of the rubber air packing tube L L, in combination with the grooves in box and lid.

**No. 14,706. Improvements on Trunks.**

*(Perfectionnements aux coffres.)*

Joseph Hurst, Augusta, Wis., U. S., 29th April 1882; for 5 years.

*Claim.*—1st. In a bureau trunk having the edge N of the lid bevelled, to close over-doors K K having the edges on top and sides bevelled, whereby the lid closing draws the doors inwardly, the till I fixed above the upper drawers, and the horizontal partitions G H strengthening the trunk and dividing the drawers. 2nd. The corner protectors R combining a bumper and a castor.

**No. 14,707. Improvements in Car-Couplings.**

*(Perfectionnements aux accouplages des chars.)*

David H. Sherman and John Bishop, Waukegan, Ill., U. S., 29th April, 1882, for 5 years.

*Claim.*—1st. A pin supporting pallet made in two pieces. 2nd. A pin supporting pallet tilted and hung at an angle. 3rd. Pawl k having wings *k'* and groove *k<sub>2</sub>*, and pivoted at its rear end in the draw-head, in combination with the draw-head having depression *l*. 4th. The pawl k pivoted in the drawhead, in combination with the latter and the link.





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Miller, W. F., et al., car journal boxes.....	14,534	Very, T. S., horse shoe machines.....	14,617
Mitchell, H., cloth exhibitor.....	14,676	Voigt, E. W., et al., refrigerators.....	14,585
Monk, H. and W., steam engines.....	14,537	Volk, W., stovepipe filters.....	14,672
Moon, J., adjustable seats for carriages.....	14,560	Von Zach, J., swiveling lever engines.....	14,630
Moore, A. R., field rollers.....	14,704	Waddell, J. C., broad cast sewers.....	14,660
"    E., scufflers.....	14,697	Wagstaff, J., bag holder.....	14,536
Naneth, G. V., paper files.....	14,567	Walker, G., et al., compressed fuel.....	14,533
Nellis, A. J., harrows.....	14,688	Walmsley, J. F., barbed fencing.....	14,654
Newell, A., reed organs.....	14,665	Wanzer, R. M., et al., sand moulding machine.....	14,693
Nichols G. W., compression cylinders for gang saws.....	14,599	Warner, L. S. and L. A., et al., overalls.....	14,557
Nicholson, W. H., expanding mandrels.....	14,600	Washburn, L. W., car wheels.....	14,674
Noyes, R. S., cork cutters.....	14,634	Weiler, J. E., cultivators.....	14,637
O'Brien, P., process for treating the woodwork of car-	14,664	Whiteley, Fassler and Kelly, harvesting machines.....	14,588
riages.....	14,671	"    W. N., et al., harvesting and binding mach-	
Olmsted, J., telephone transmitters.....	14,681	chines.....	14,589
Olson, C., smoke consumers.....	14,690	Whitman, W. W., et al., cheese hoop followers.....	14,573
Palmer, H. C., et al., lightning arresters.....	14,655	Wiggin, A., carbureters.....	14,605
Palchin, R. M., burglar alarms and door bolts.....	14,590	Wilcox, C. H., et al., sewing and trimming apparatus.....	14,598
Peck, J. M., construction of buildings.....	14,559	"    F. N., et al., oatmeal machines.....	14,689
Perry, J. L., et al., wood polishing machines.....	14,581	Willard, H. E., fishing apparatus.....	14,675
Phillips, T. S., et al., car journal boxes.....	14,534	Winslow, J. L., lubricating cups.....	14,692
Plenkharp, J., tables.....	14,626	Winterstein, W., weighing and lifting devices.....	14,578
Pratt, P. P., et al., cigarette machines.....	14,532	Wright, A. W., churns.....	14,705
Raffington, M. G., et al., cigarette machines.....	14,532	Yon, G., bricks.....	14,561
Ramsay, A. G., mower knives.....	14,687	Yost, G. E., car axle boxes.....	14,549
Rathbun, E. W., compressed fuel.....	14,533		

## Patents issued up to 28th June, 1882, Claims and Drawings of which will appear in a subsequent number of the Patent Record.

- No. 14,842. R. Kirkpatrick, Carleton, N. B., "Lifting, Pressing and Weighing Machine," (Extension of Patent No. 9327.) 25th May, 1882.
- No. 14,843. W. J. Carshore, Paterson, N.J., Assignee, "Radiators," 26th May, 1882.
- No. 14,844. La Gee Taber, Menden, Conn., "Method of Burnishing Knife Blades," 26th May, 1882.
- No. 14,845. W. Penniston, St. Michel, Que., "Potato and Onion Separator," 26th May, 1882.
- No. 14,846. H. C. Shaw, Needham, Mass., "Knitting Machines," 26th May, 1882.
- No. 14,847. J. A. McKenzie, Galesbury, Ill., "Tricycles," 26th May, 1882.
- No. 14,848. V. E. Fuller, Hamilton, Ont., Assignee, "Broom Bag," (Extension of Patent No. 7540.) 26th May, 1882.
- No. 14,849. H. M. Taynter, Chicago, Ill., Assignee, "Crocheting Machines," 26th May, 1882.
- No. 14,850. M. L. Smith, Batavia, N.Y., and H. N. Bancroft, Jefferson, Ohio, "Wheel Hubs," 27th May, 1882.
- No. 14,851. W. Duffield and Peter English, London, Ont., "Process and Apparatus for the manufacture of gas," 27th May, 1882.
- No. 14,852. J. Fraser, Charlotteville, Ont., "Drill and Broad Cast Sower," (Extension of Patent No. 7501.) 29th May, 1882.
- No. 14,853. M. Miller, Grand Rapids, Mich., "Holdbacks," 29th May, 1882.
- No. 14,854. H. Springer and G. L. Ives, Vicksburg, "Spring Tooth Harrows or Cultivators," 29th May, 1882.
- No. 14,855. A. A. Young, Boston, Mass., "Self Levelling Ship's Berth," 29th May, 1882.
- No. 14,856. J. B. Blythe, Bordeaux, France, "Treating Railway Sleepers, Wood Blocks," 29th May, 1882.
- No. 14,857. W. Morgan, Montreal, Que., "Hog Singeing Apparatus," 29th May, 1882.
- No. 14,858. J. DuBois, Waverly, N. Y., "Fences," 29th May, 1882.
- No. 14,859. J. W. Norcross, Lockport, N.Y., "Pulley Blocks," 29th April, 1882.
- No. 14,860. T. H. Hovenden, Ingersoll, Ont., "Perpetual Calendars," 29th May, 1882.
- No. 14,861. J. W. Norcross, N. Y., "Pulley Blocks," 29th May, 1882.
- No. 14,862. O. C. Hanson, Skudesnoes, Norway, "Fog Horn," 29th May, 1882.
- No. 14,863. A. C. Gibson and W. W. Gibson, Toronto, Ont., "Window Blind," (Extension of Patent No. 13,547.) 29th May, 1882.
- No. 14,864. A. C. Gibson and W. W. Gibson, Toronto, Ont., "Window Blind," (Extension of Patent No. 13,547.) 30th May, 1882.
- No. 14,865. C. V. Boys, Wing, Eng., "Apparatus for Measuring Mechanical and Electrical Power," 30th May, 1882.
- No. 14,866. C. V. Boys, Wing, Eng., "Electric Meter," 30th May, 1882.
- No. 14,867. F. W. Brewster, Westminster, Eng., "Buoyant Devices," 30th May, 1882.
- No. 14,868. J. K. Kepner, Little Valley, Minn., "Double Tongues for Harvesters," 30th May, 1882.
- No. 14,869. C. Gentesse, Montreal, Que., "Wringers and Mangles," 30th May, 1882.
- No. 14,870. W. Hodge, Uxbridge, Ont., "Machines for Raising or Depressing Buggy Tops," 30th May, 1882.
- No. 14,871. J. R. McPherson, Sea Bright N. J., "Stock Car," 30th May, 1882.
- No. 14,872. W. H. Kershaw, Widnes, Eng., "Roof Covering," (Extension of Patent No. 7511.) 30th May, 1882.
- No. 14,873. W. Ager, Washington, Columbia, "Grain Decorticator," 30th May, 1882.
- No. 14,874. M. Bray, Newton, Mass., Assignee, "Shoe Lacing," Stud, (Extension of Patent No. 7553.) 30th May, 1882.
- No. 14,875. M. Bray, Newton, Mass., Assignee, "Shoe Lacing Stud," (Extension of Patent No. 7553.) 31st April, 1882.
- No. 14,876. E. G. Schultz and F. Lindemann, Buffalo, N.Y., "Revolving Ash Sifter," 21st May, 1882.
- No. 14,877. A. F. Barron, Montreal, Que., "Lumber Dryers," 21st May, 1882.
- No. 14,878. F. A. Tryon, Unionville, Conn., "Hoes," 21st May, 1882.
- No. 14,879. G. T. Levis, Phil., Penn., and E. O. Bartlett, Pemberton, N. J., "White Lead Pigment," 21st May, 1882.
- No. 14,880. W. S. Ingraham, Waukegan, Ill., "Sickle Grinding Machine," (Extension of Patent No. 7516.) 31st May, 1882.
- No. 14,881. R. J. La Grange, Phil., Penn., "Finger, Scarf, and other Jewelry Rings," 31st May, 1882.
- No. 14,882. J. A. Harriman, Bellaire, Mich., "Adjustable Writing Table," 31st May, 1882.
- No. 14,883. A. C. Dunlevy and F. M. Campbell, St. Louis, Missouri, "Sky Lights," 1st June, 1882.
- No. 14,884. H. J. Skinner, Bradford, Penn., "Washing Machines," 1st June, 1882.
- No. 14,885. J. H. Langley, Boston, Mass., "Anti-friction Journal Bearings," 1st June, 1882.
- No. 14,886. J. S. Norris, Joliet, Ill., "Scrap Cabinet," 1st June, 1882.
- No. 14,887. H. W. L. O. Von Roden, Hamburg, Germany, "Art or Process of Preserving Milk," 1st June, 1882.
- No. 14,888. W. L. Maltby, Montreal, Que., Assignee, "Fire Proof Paint," (Extension of Patent No. 3786.) 2nd June, 1882.
- No. 14,889. D. H. Sherman and J. Bishop, Waukegan, Ill., "Automatic Car Coupling," (Extension of Patent No. 14,707.) 2nd June, 1882.
- No. 14,890. D. H. Sherman and J. Bishop, Waukegan, Ill., "Automatic Car Coupling," (Extension of Patent No. 14,707.) 3rd June, 1882.
- No. 14,891. The Pratt and Cady Company, Hartford, Conn., Assignees, "Steam Valve," 3rd June, 1882.
- No. 14,892. F. X. Bertrand, St. Hyacinthe, Que., "Machine a scier le bardeau," 3e Juin, 1882.
- No. 14,893. J. A. Beam, Baden, Ont., "Thrashing Machines," 3rd June, 1882.
- No. 14,894. S. Gissingner, Pittsburg, Penn., "Nut Locks," 3rd June, 1882.
- No. 14,895. H. R. Ives, Montreal, Que., "Barb Wire Fence Post," 3rd June, 1882.
- No. 14,896. N. Nilson, Maple Plain, Minn., "Vehicle Springs," 3rd June, 1882.
- No. 14,897. C. A. Marfield, New York, and A. Ritchie, Montreal, Que., "Anti-slipping Machine," 3rd June, 1882.
- No. 14,898. J. H. Moran, London, Ont., "Vehicle Springs," 3rd June, 1882.
- No. 14,899. G. T. Lewis, Phil., Penn., "Waste Fume Condenser," 3rd June, 1882.
- No. 14,900. B. J. Palmer, Durham, Ont., "Engine," 3rd June, 1882.
- No. 14,901. G. Cosine, New York, "Process and Apparatus for Rendering and Bleaching Animal Fats," 3rd June, 1882.
- No. 14,902. E. S. Boyton, Brideport, Conn., "Information Tablets," 3rd June, 1882.
- No. 14,903. M. Rose, Indianapolis, Ind., "Apparatus for Renovating Feathers," 3rd June, 1882.
- No. 14,904. C. W. Levalley, St. Paul, Minn., "Harvesting Machine," 3rd June, 1882.
- No. 14,905. J. F. Kettell, Worcester, Mass., "Telephone Signal Apparatus," 5th June, 1882.
- No. 14,906. E. Preston, Winona, Minn., "Device for Jointing Saws," 5th June, 1882.
- No. 14,907. J. M. Teasdale, Howell, Mich., "Fruit Evaporators," 5th June, 1882.
- No. 14,908. C. T. Howard, Providence, Rhode Island, "Protectors for Telegraphic Instruments," 5th June, 1882.
- No. 14,909. J. A. Dewell, Simcoe, Ont., "Force Pumps," 5th June, 1882.
- No. 14,910. J. A. House, Bridgeport, Conn., "Corset Shaping Apparatus," 5th June, 1882.
- No. 14,911. J. M. Lyons, Moncton, N. B., "Baggage Checks and Coupon Tickets," 5th June, 1882.
- No. 14,912. G. Cosine, New York, "Process of Making Artificial Butter," 5th June, 1882.
- No. 14,913. W. A. Firstbrook, Toronto, Ont., "Case Fasteners," 5th June, 1882.
- No. 14,914. A. McDonald, Cambridge, Mass., "Mechanism for Supporting the Rotary Disc cutters of a Machine for Dressing Stone," 5th June, 1882.
- No. 14,915. C. A. Conover, London, Ont., "Washing Machine," 5th June, 1882.
- No. 14,916. E. J. Major, Montreal, Que., "Fence Posts," 5th June, 1882.
- No. 14,917. The Boston Petroleum Heating Company, Boston, Mass., Assignees, "Oil Stove," 6th June, 1882.
- No. 14,918. J. C. Coodwin and W. Hotop, Kalamazoo, Mich., "Winder for Sewing Machines," 6th June, 1882.
- No. 14,919. Worcester Barb Fence Company, Assignee, Worcester, Mass., "Barbed Wire," 6th June, 1882.
- No. 14,920. J. B. Stetson and A. D. Wilson, Lincoln, Maine, "Lantern," 6th June, 1882.
- No. 14,921. F. Beaumont, Little Rock, Arkansas, "Draft Apparatus for Stoves," 7th June, 1882.
- No. 14,922. W. W. Grier, Hulton, Penn., "Vehicle Spring," 7th June, 1882.
- No. 14,923. W. Hazelhurst, Portland, N. B., "Process of Chilling Iron and other Metallic Castings," 7th June, 1882.
- No. 14,924. L. Beecher, Medina, N. Y., "Acoustic Telephone," 9th June, 1882.
- No. 14,925. A. Holmes, Hamilton, Ont., "Steam Generating Clothes Washer," 9th June, 1882.
- No. 14,926. M. C. Dixon, Assignee, "Car Coupler," 9th June, 1882.
- No. 14,927. S. Vermilyea and H. M. Vermilyea, Belleville, Ont., 9th June, 1882.
- No. 14,928. H. M. Robbins, Newington, Conn., "Cattle Ties," 9th June, 1882.
- No. 14,929. W. Wheeler, Concord, Mass., "Reflectors," 9th June, 1882.

- No. 14,930. A. P. Farrar, Brainerd, Minn., "Snow Plough," 9th June, 1882.
- No. 14,931. J. A. J. Schultz, St. Louis, Miss., "Belting Leather, Leather Stuffing and Pulling Machine," (Extension of Patent No. 7555,) 9th June, 1882.
- No. 14,932. G. Draper, Mayo, Manic, Wis., "Harvesters and Binders," 10th June, 1882.
- No. 14,933. J. Ziemmerman and W. Alford, Cincinnati, Ohio, "Meat Cutter," 10th June, 1882.
- No. 14,934. The Newark Filtering, Company, Assignees, Newark, N. J., "Filter," 10th June, 1882.
- No. 14,935. The Newark Filtering Company, Assignees, Newark, N. J., "Filter," 10th June, 1882.
- No. 14,936. G. G. Osborne, New York, and C. F. Beatty, Brooklyn, N. Y., "Provision Safe," 10th June, 1882.
- No. 14,937. W. N. Whiteley, Springfield, Ohio, "Finger Bars and the Mode of Attaching Guard Fingers to the Same," 10th June, 1882.
- No. 14,938. W. N. Whiteley, Springfield, Ohio, "Harvesting Machines," 10th June, 1882.
- No. 14,939. C. Sheppard, Bridgend, Wales, "Coal Washing Machines," 10th June, 1882.
- No. 14,940. F. J. Gould, Sidney, Ohio, "Self-Feeding Stove or Furnace,"
- No. 14,941. A. McDonald, Cambridge, Mass., "Stone Dressing Machine," 10th June, 1883.
- No. 14,942. M. Bray, Newton, Mass., "Process of Making Lacing Studs," 10th June, 1882.
- No. 14,943. M. Hynes, Montreal, Que., "Machine pour les Renforts," (Extension of Patent No. 7550,) 10th June, 1882.
- No. 14,944. The McCormick Harvesting Machine Company, Assignees, Chicago, Ill., "Grain Binder," 12th June, 1882.
- No. 14,945. The Toronto Reaper and Mower Company, Toronto, Ont., "Harvesters and Binders," 12th June, 1882.
- No. 14,946. G. S. Lacey and A. B. Denning, New York, "Gas Regulator," 12th June, 1882.
- No. 14,947. A. M. D. Fraser, Liverpool, Eng., Assignee, "Condenser or Cooler," 12th June, 1882.
- No. 14,948. J. H. Shellebarger, Topeka, and S. A. Shellabarger, Beloit, Kansas, "Stock or Cattle Car," 12th June, 1882.
- No. 13,949. H. J. Morshon, Warsaw, Ind., "Rock Drill," 12th June, 1882.
- No. 14,950. H. W. Murdock, Montreal, Que., "Knitting Machines," 12th June, 1882.
- No. 14,951. J. Chisholm, Assignee, Toronto, Ont., "Spring Beds," 12th June, 1882.
- No. 14,952. J. Murray, Toronto, Ont., "Remedy for Catarrh and Hemorrhoids," 13th June, 1882.
- No. 14,953. J. McCloskey, London, Ont., "Spoke Guide and Gauge," 13th June, 1882.
- No. 14,954. H. Mestern, Berlin, Germany, "Air Attemperator," 13th June, 1882.
- No. 14,955. C. Callahan, Chelsea, Mass., "Knitting Machine," 13th June, 1882.
- Ny. 14,956. I. S. Sherwin, Battle Creek, Mich., "Gates," 13th June 1882,
- No. 14,957. J. Magee and F. A. Magee, Chelsea, Mass., 13th June, 1882.
- No. 14,958. J. Field and R. E. Hammill, Lancaster, Ont., "Cross Spring Buggy Gearing," (Extension of Patent No. 7557,) 13th June, 1882.
- No. 14,959. L. M. Fleet, Boston, Mass., "Gauge tube," 14th June, 1882.
- No. 14,960. J. DuBois, Waverly, N.Y., "Fences," 14th June, 1882.
- No. 14,961. E. M. Ball, Coaticooke, Que., "Manufacture of paper pulp from wood," 14th June, 1882.
- No. 14,962. J. Fournier, Jr., N. Y., "Bread boxes," 14th June, 1882.
- No. 14,963. C. D. Ekman, London, Eng., "Wood process," 14th June, 1882.
- No. 14,964. J. M. Perkins, South Bona, Ind., "Carriage seats," 14th June, 1882.
- No. 14,965. W. Westlake and The Adams and Westlake Manufacturing Co., Chicago, Ill., "Cuspadors," 14th June, 1882.
- No. 14,966. E. M. Jewett, assignee, Buffalo, N.Y., "Barrel stove," 14th June, 1882.
- No. 14,967. G. H. Rheutan, Hartford, Conn., "Steam Boiler," 14th June, 1882.
- No. 14,968. J. Naylor, Jr., Rochester, N. Y., "Cheese Manufacture," 14th June, 1882.
- No. 14,969. D. J. Farmer, J. P. Farmer and S. Farmer, Penn Yan, N.Y., "Cut Nail Process," 15th June, 1882.
- No. 14,970. The Toronto Reaper and Mower Company, assignees, Toronto, Ont., 16th June, 1882.
- No. 14,971. J. W. Harbaugh and W. J. Patterson, Lawrence, Kansas, "Barbed fence," 15th June, 1882.
- No. 14,972. D. Maxwell, Paris, Ont., "Harvesting Machine," 15th June, 1882.
- No. 14,973. F. B. Rice, Dunkirk, N.Y., "Valve gear for engine," 16th June, 1882.
- No. 14,974. W. Crowe, Boston, Mass., "Step for vertical shafting," 16th June, 1882.
- No. 14,975. J. W. Elliott, Toronto, Ont., "Self Registering Tally," 16th June, 1882.
- No. 14,976. A. Gardner, Toronto, Ont., "Check Books," 16th June, 1882.
- No. 14,977. J. H. Stone, Hamilton, Ont., "Tubular Lanterns," 19th June, 1882.
- No. 14,978. S. J. Baird, Covington, Kentucky, "Button Hole," 19th June, 1882.
- No. 14,979. T. Isherwood, Westerly, Rhode Island, "Weaving cloth," 19th June, 1882.
- No. 14,980. J. Murphy, San Antonio, Texas, "Bench Clamps," 19th June, 1882.
- No. 14,981. R. T. Martin, Toronto, Ont., "Calculators," 19th June, 1882.
- No. 14,982. C. W. Levalley, St. Paul, Minn., "Bolt and Rivet Cutter," 19th June, 1882.
- No. 14,983. W. Davison, Hoboken, N.J., "Vehicle springs," 19th June, 1882.
- No. 14,984. A. G. Smyth, Hamilton, and J. Smith, Brantford, Ont., "Devices for converting reciprocating motion into rotary," 19th June, 1882.
- No. 14,985. C. D. Pierce, Philadelphia, Penn., "Earth Auger," (Ext. of Pat. No. 7,846), 20th June, 1882.
- No. 14,986. C. D. Pierce, Philadelphia, Penn., "Earth Auger," (Ext. of Pat. No. 7,846), 20th June, 1882.
- No. 14,987. J. Frazier, Centralia, Ill., "Fence Post," (Ext. of Pat. No. 10,483), 20th June, 1882.
- No. 14,988. J. F. Ross, Toronto, Ont., "White Lead Paint or Powder Package," (Ext. of Pat. No. 8,807), 20th June, 1882.
- No. 14,989. E. G. Parkhurst, Hartford, Conn., "Ammunition cases," 20th June, 1882.
- No. 14,990. E. L. Sprague, Boston, Mass., "Boots and Shoes," 20th June, 1882.
- No. 14,991. J. F. Brower, Coral, Mich., "Tread former," 20th June, 1882.
- No. 14,992. J. M. Van Wagner, Nyack, N.Y., "Car seat attachments," 20th June, 1882.
- No. 14,993. M. J. Woodward, Petrolia, Ont., "Petroleum condenser," 20th June, 1882.
- No. 14,994. H. A. Clark, Boston, Mass., "Electric Cable," 20th June, 1882.
- No. 14,995. H. A. Clark, Boston, Mass., "Electric Cable Machine," 20th June, 1882.
- No. 14,996. H. A. Clark, Boston, Mass., "Parallel wire insulating machine," 20th June, 1882.
- No. 14,997. H. Morris, Manchester, Eng., "Signalling apparatus," 20th June, 1882.
- No. 14,998. G. N. Sidney, Syracuse, N.Y., "Ball traps," 20th June, 1882.
- No. 14,999. H. Hilbers, Flushing, N. Y., "Apparatus for drying wall paper," 20th June, 1882.
- No. 15,000. P. A. Larivière, Ottawa, Ont., "Vehicle seat," 20th June, 1882.
- No. 15,001. E. L. Goold, J. O. Wisner and W. S. Wisner, Brantford, Ont., "Self Acting Dump," (Ext. of Pat. No. 7,567), 20th June, 1882.
- No. 15,002. J. J. McIntire, Oakland, Cal., "Egg and Fruit carrier," (Ext. of Pat. No. 14,308), 20th June, 1882.
- No. 15,003. J. J. McIntire, Oakland, Cal., "Egg and Fruit carrier," (Ext. of Pat. No. 14,308), 21st June, 1882.
- No. 15,004. A. S. Haslam, Derby, Eng., "Dry air refrigerator," (Ext. of Pat. No. 13,902) 21st June, 1882.
- No. 15,005. A. S. Haslam, Derby, Eng., "Dry air refrigerator," (Ext. of Pat. No. 13,902), 22d June, 1882.
- No. 15,006. G. Boulter, Montreal, Quebec "Moccasin," (Ext. of Pat. No. 7,904), 22d June, 1882.
- No. 15,007. J. H. Allen, Black Creek, Ont., "Flexible fire escape ladder," 22d June, 1882.
- No. 15,008. M. Lescarbau, Quebec, "Portable belt pump," (Ext. of Pat. No. 8,608), 25d June, 1882.
- No. 15,009. W. Murray, Vicksburg, Mississippi, "Fireman's protecting apparatus," (Ext. of Pat. No. 7,586), 22d June, 1882.
- No. 15,010. H. C. Hartley and J. L. Rogers, Springfield, Ohio, "Automatic belt replacer," 22d June, 1882.
- No. 15,011. D. Maxwell, Paris, Ont., "Harvesters," 22d June, 1882.
- No. 15,012. The Toronto Reaper and Mower Company, assignees, Toronto, Ont., "Grain packer," 22d June, 1882.
- No. 15,013. W. J. Carshore, assignee, Paterson, N. J., "Boiler," 22d June, 1882.
- No. 15,014. J. B. MacKinnon, Montreal, Que., "Water proof felt boat," 24th June, 1882.
- No. 15,015. J. E. Boyle, Brooklyn, N. Y., "Water closets," 24th June, 1882.
- No. 15,016. E. Horsepool, London, Eng., "Glove fastener," 24th June, 1882.
- No. 15,017. O. C. Devereux, Providence, Rhode Island, "Manufacture of jewelry, etc.," 24th June, 1882.
- No. 15,018. L. C. Huck, Chicago, Ill., "Malt house," 24th June, 1882.
- No. 15,019. H. B. Sheridan, Cleveland, Ohio, "Dynamo electric machine," 24th June, 1882.
- No. 15,020. J. Budd, Boston, Mass., "Glass ceiling," 24th June, 1882.



No. 15,021. W. W. McLellan, New Castle, N. B., "Railway telegraph and semaphore signals," 24th June, 1882.

No. 15,022. J. L. Thomson, Syracuse, N. Y., "Pantaloons protectors and toe pieces for boots and shoes," 26th June, 1882.

No. 15,023. H. B. Sheridan, Cleveland, Ohio, "Dynamo electric machine," 26th June, 1882.

No. 15,024. B. F. Moore and G. Cruikshank, Heathcote, Ont., "Churning apparatus," 26th June, 1882.

No. 15,025. R. M. Appleton, Lake Village, New Hampshire, "Drawers and tights," 26th June, 1882.

No. 15,026. O. R. Chaplain, D. C. Knowlton and W. A. Macleod, Boston, "Bolting wire machine," 26th June, 1882.

No. 15,027. W. H. Patten, S. P. Young, C. D. Young, A. F., N. Y., "Rake," (Ext. of Pat. No. 7,626), 27th June, 1882.

No. 15,028. The Ontario Glass Burial Case Company Limited, assignees, Ridgetown, Ont., "Glass burial case," (Ext. of Pat. No. 7,863), 27th June, 1882.

No. 15,029. The Ontario Glass Burial Case Company Limited, assignees, Ridgetown, Ont., "Glass burial case," (Ext. of Pat. No. 7,860), 28th June, 1882.

No. 15,030. J. Budd, Boston, Mass., "Transferring machine," 28th June, 1882.

No. 15,031. W. Wheeler, Concord, Mass., "Reflectors," 28th June, 1882.

No. 15,032. A. J. Ferris, Elmore, Ohio, "Fruit pickers," 28th June, 1882.

No. 15,033. C. M. Grannis and J. L. Thomson, Syracuse, N. Y., "Rein-holders," 28th June, 1882.

No. 15,034. E. Hatch, Charlestown, Mass., "Convestible chair and cot," 28th June, 1882.

No. 15,035. J. W. Paterson, Montreal, Que., "Petroleum cement roofing," 28th June, 1882.

No. 15,036. C. J. LeRoy, Palestine, and J. W. Henson, Dallas, Texas, "Wagon brake," 28th June, 1882.

No. 15,037. S. W. Martin, Springfield, Ohio, "Iron fences," 28th June, 1882.

No. 15,038. W. S. Wisner, assignee, Brantford, Ont., "Lock and spring attachment for cultivator and seed sawing teeth," (Reissue of Pat. No. 7,880), 28th June, 1882.

No. 15,039. H. P. Ballou, Needham, Mass., "Knitting machine," 28th June, 1882.

No. 15,040. M. W. Woodruff, Syracuse, N. Y., "Piston packings," 28th June, 1882.

No. 15,041. J. Cunningham and C. Karch, Hespeler, Ont., "Fuel saving apparatus," 26th June, 1882.

No. 15,042. W. M. Howland and J. E. Howland, Topsham, Maine, "Bench dog hooks," 28th June, 1882.

No. 15,043. W. West, Kene, Ont., "Can filling apparatus," 28th June, 1882.

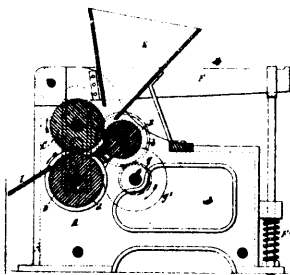
# THE CANADIAN PATENT OFFICE RECORD.

## ILLUSTRATIONS.

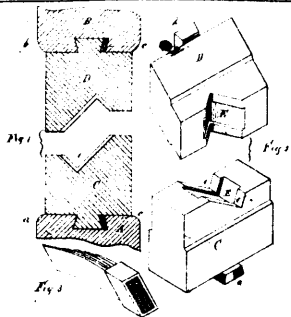
Vol. X.

MAY, 1882.

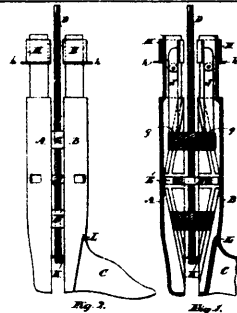
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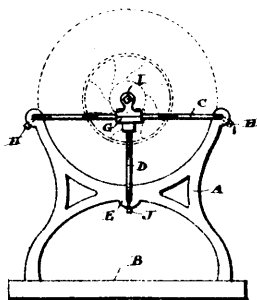
14526 Guest & Court's Process for Treating Tan or Spent Bark for the Manufacture of Paper.



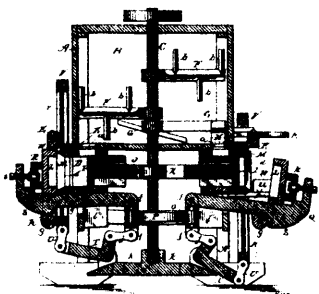
14527 Hale's Improvement in Devices for Banding Elliptic Springs.



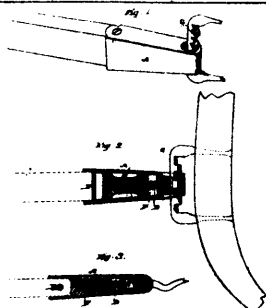
14528 Young's Improvement on Boot Trees.



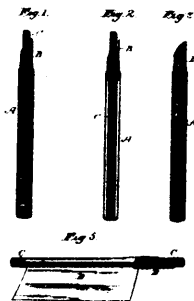
14529 Byrnes's Improvements in Gas Machines.



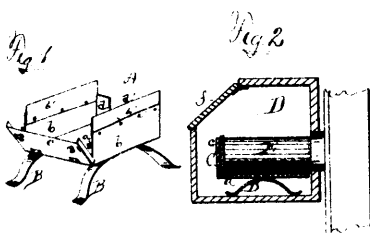
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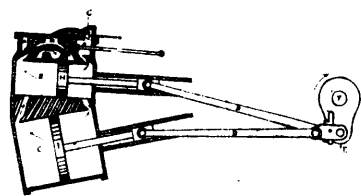
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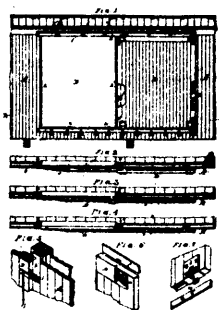
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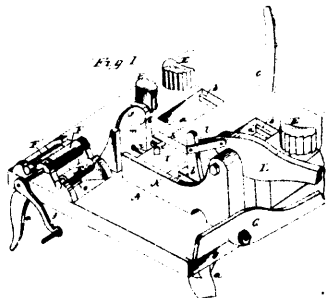
14534 Phillips's Improvements on Car Journal Boxes.



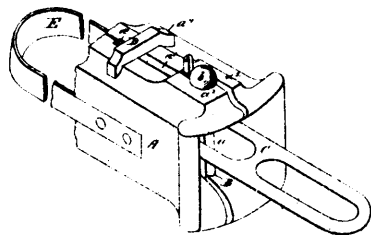
14537 Monk's Improvements in Double Cylinder Steam Engines.



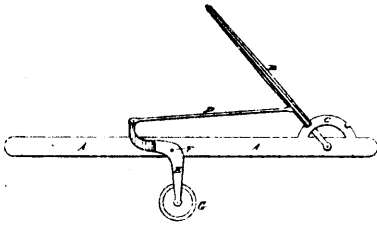
14538 Hewitt & Suzemihl's Improvement in Freight Car Doors.



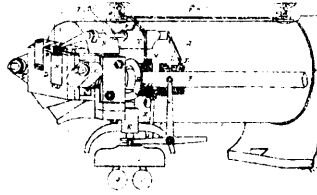
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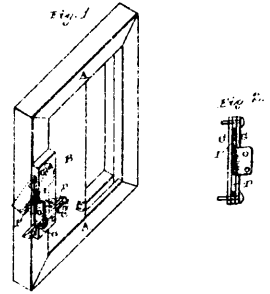
14540 Hunt & Jones's Improvements on Car-Couplings.



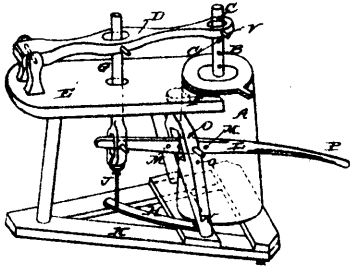
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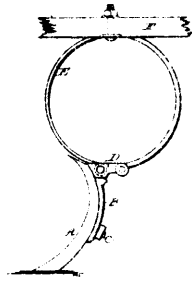
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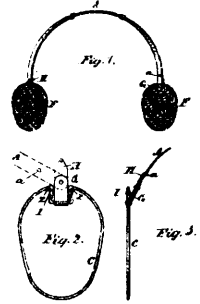
14543 Briggs & Dougherty's Improvements in Car Door Fasteners.



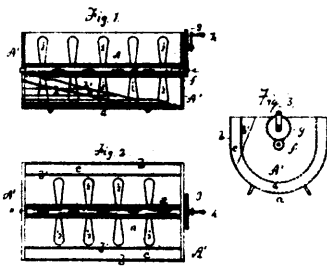
14544 Hogsett's Improvements on Churn Powers.



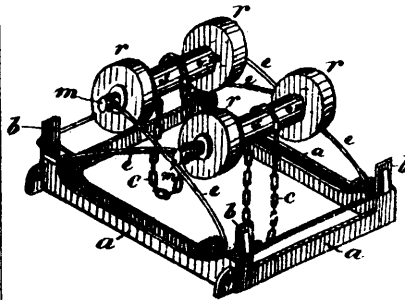
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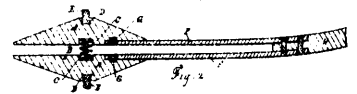
14547 Greenwood's Improvements on Ear Mufflers.



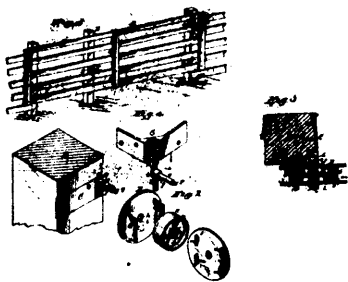
14548 Deis's Improvements on Egg Beaters.



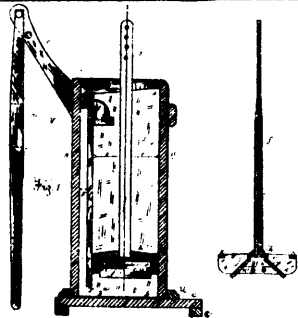
14549 Yost's Improvements on Car Axle Boxes.



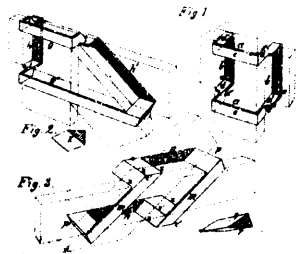
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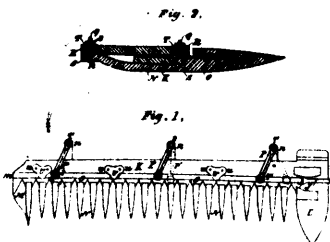
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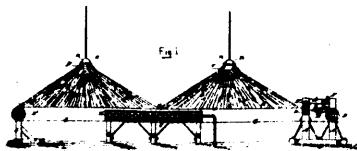
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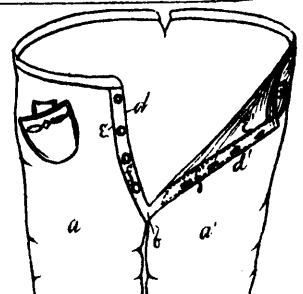
14553 Kirby's Improvements on Stirrup Fastenings.



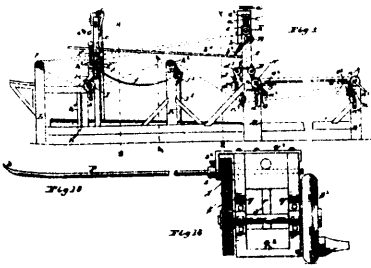
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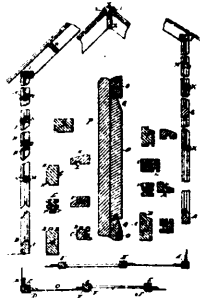
14555 Burr's Improvements on Curing Rubber Coated Fabrics.



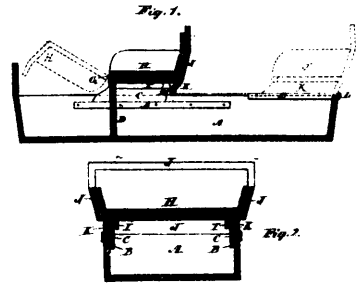
14557 Feder's Improvements on Overalls, Pantaloons, &c.



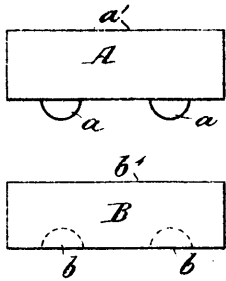
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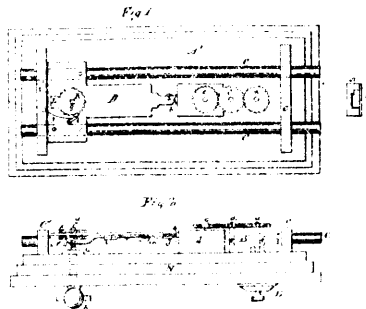
14559 Peck's Improvements on the Construction of Buildings.



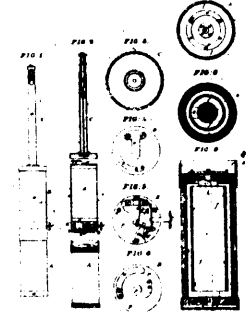
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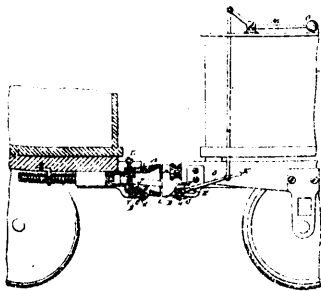
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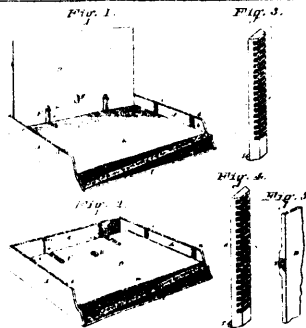
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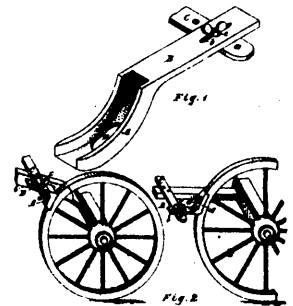
14563 Clarke & Leigh's Improvements on Apparatus for Lighting Gas by Electricity, Part of which is Applicable to other Electrical Appliances.



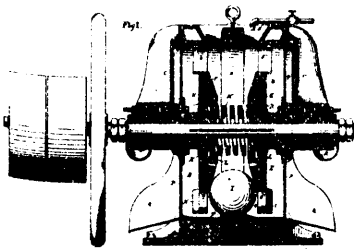
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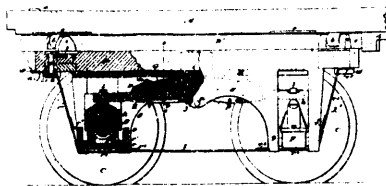
14567 Nanerth's Improvements in Paper Files.



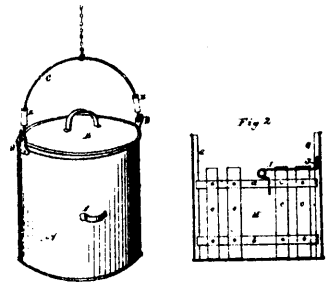
14568 Mercer's Improvements on Vehicle Wheel Scrapers.



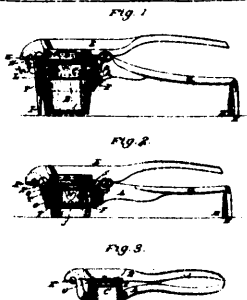
14569 Tasker's Improvements on Wet Pulverizing Machines.



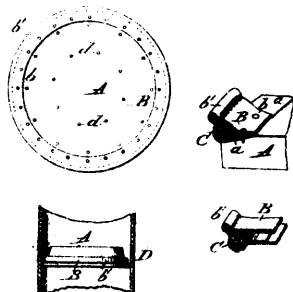
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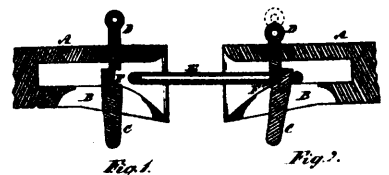
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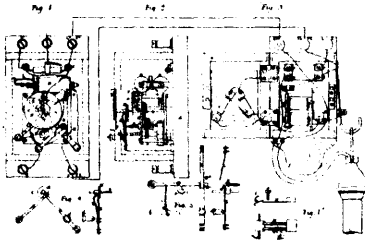
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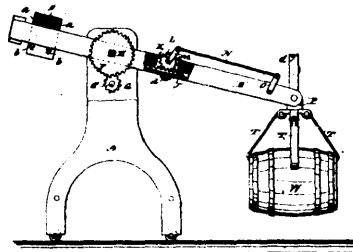
14573 Castle's Improvements on Cheese Hoop Followers.



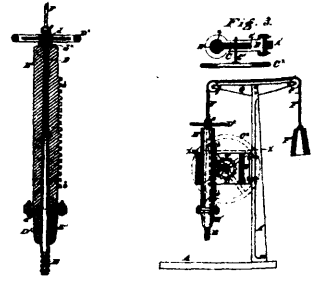
14576 Gladwin's Improvements on Car Couplers.



14577 Brown & Saunder's Improvements on Telephonic and Telegraphic Signalling Apparatus.



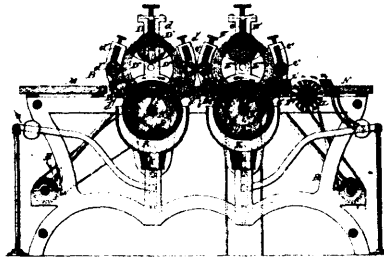
14578 Arnot & Winterstein's Improvements on Weighing and Lifting Devices.



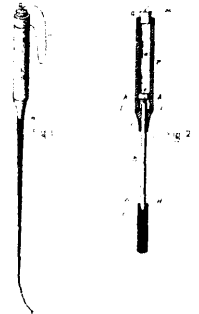
14579 Hemingray's Improvements in Glass Presses for the Manufacture of Insulators.



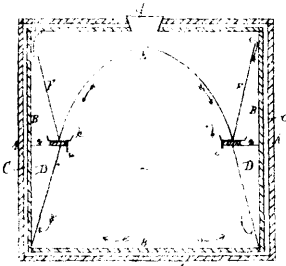
14580 Matmar's Improvements in Coats.



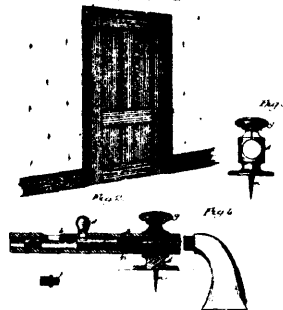
14581 Perry & Mather's Improvements on Wood Polishing Machines.



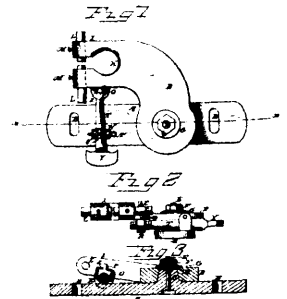
14583 Gilman's Improvements in Toy Whips and Cane Handles.



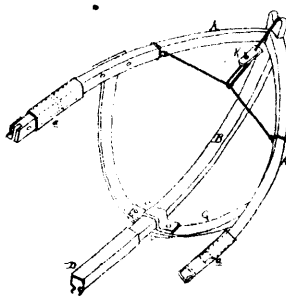
14589 Davis & Voigt's Improvements on Refrigerators.



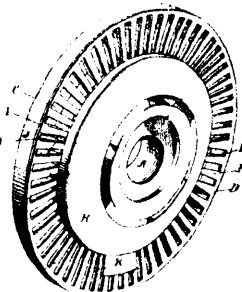
14590 Patchin's Improvements in Combined Burglar Alarms and Door Bolts.



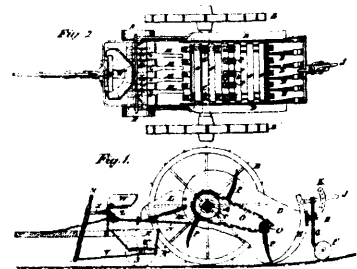
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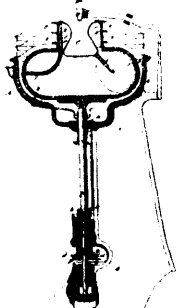
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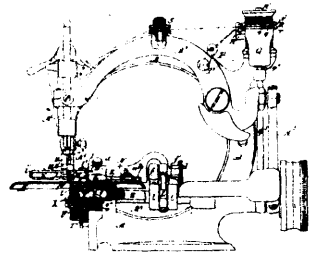
14594 Tasker's Improvements in Pulverizer Disks.



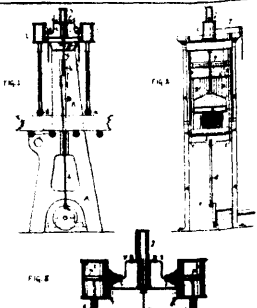
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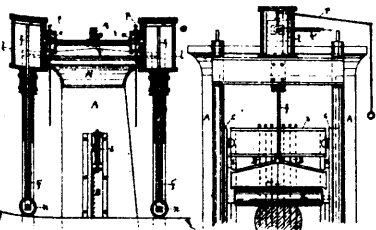
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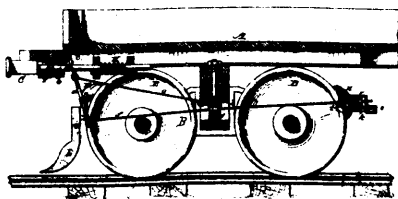
14598 Barton & Wilcox's Improvements in Method and Apparatus for Sewing and Trimming Knitted Goods and Fabrics.



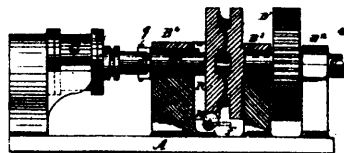
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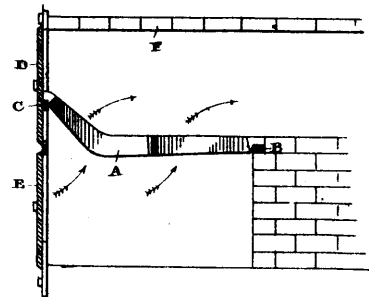
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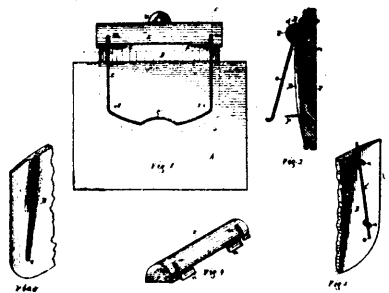
14601 Schiller's Improvements on Car Brakes and Fenders.



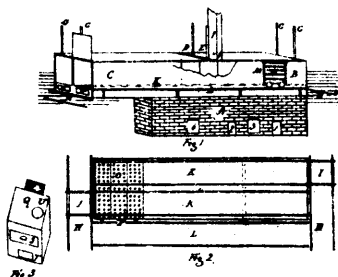
14602 Reese's Improvements in the Manufacture of Car Wheels.



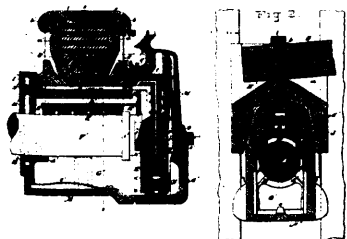
14603 Sole's Improvements in Furnaces.



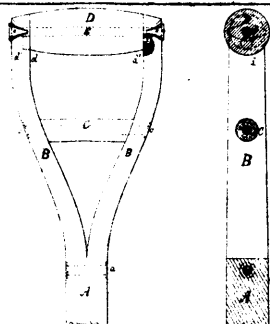
14609 Slafter's Improvements in Car Label Holders.



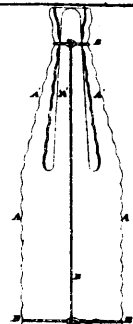
14610 Donald's Improvements on Fruit Driers.



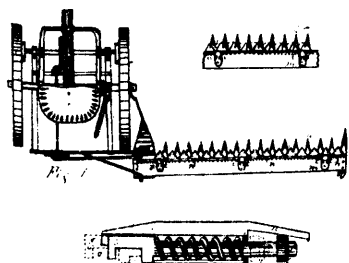
14612 Smith's Improvements on Car Axle Boxes.



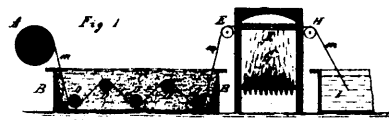
14613 Johnson's Improvement in Handles for Shovels and other Implements.



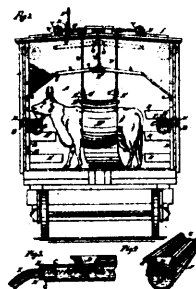
14614 Kacer's Improvement on Bottle Wrappers.



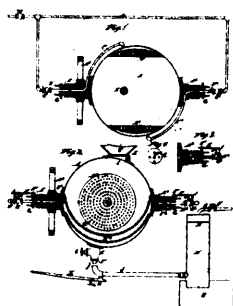
14615 Freeman's Improvements on Mowing and Reaping Machines.



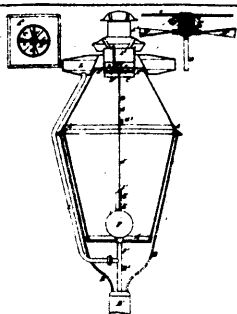
14616 Roberts's Improvements on Process and Apparatus for Coating Metals with Zinc.



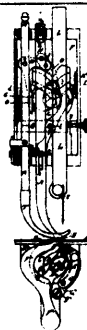
14618 Mather's Improvements in Stock Cars.



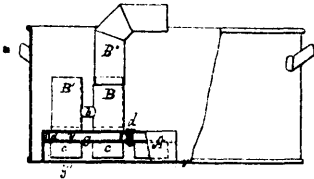
14619 Keen's Improvements on Apparatus for Manufacturing Paper Pulp.



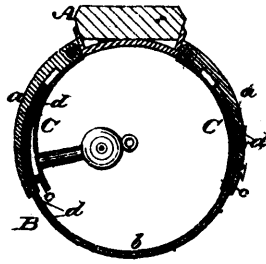
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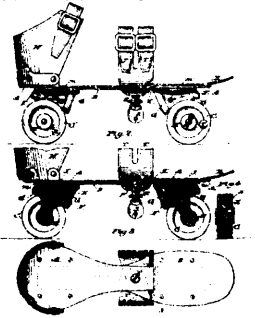
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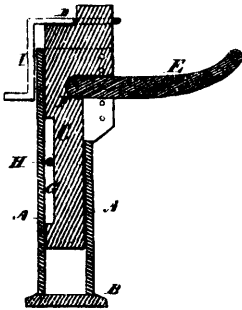
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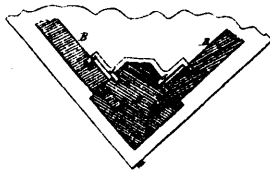
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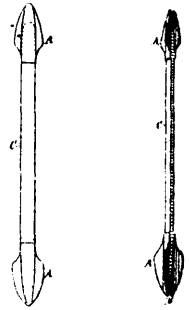
14624 Raymond's Improvements on Roller Skates.



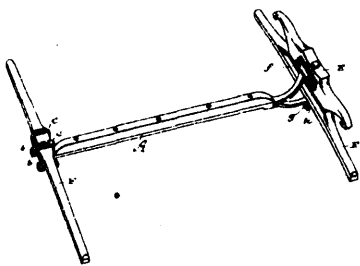
14625 Higgins's Improvements on Lifting Jacks.



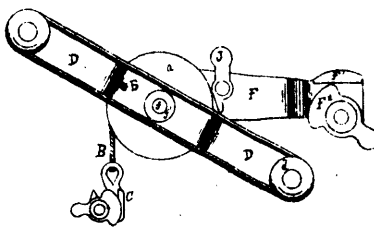
14626 Plenkharp's Improvements on Tables.



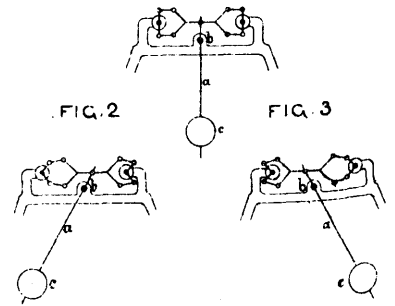
14627 Foard's Improvements on Fish Hook Extractors.



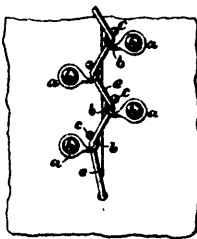
14628 McLaghlin's Improvements on the Construction of Running Gears for Vehicles.



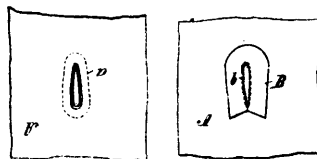
14629 Stevens's Improvements on Fence Wire Stretchers.



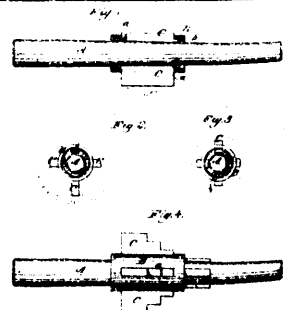
14630 Von Zäch's Improvement on Swinging Lever Engines.



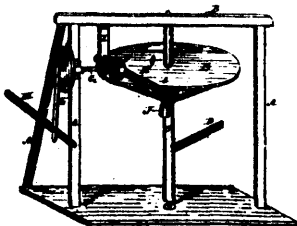
14632 Bray's Improvements on Lacing Boots.



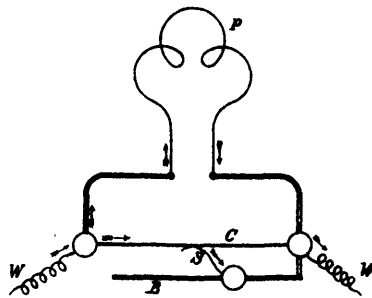
14633 Daun's Improvements in Button Hole Casings.



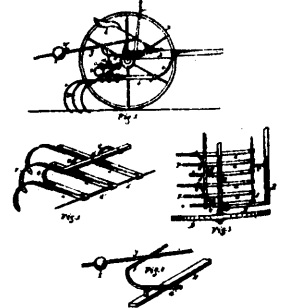
14634 Nicholson's Improvement in Expanding Mandrels.



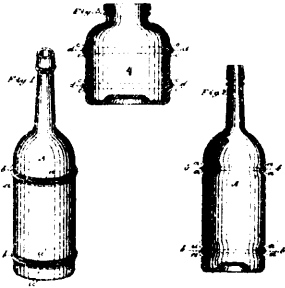
14635 Smirl's Improvements on Horse Powers.



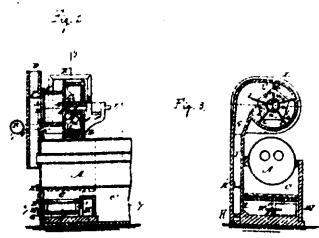
14636 Gatehouse's Improvements on Electric Lamps.



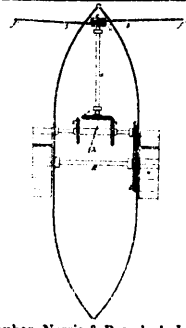
14637 Weller's Improvements in Cultivators.



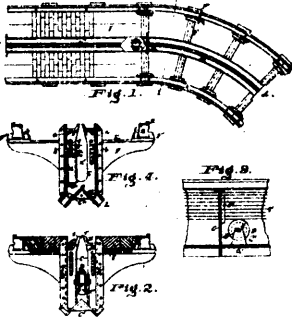
14638 Thorpe & Belloli's Improvement in Cushion Protectors for Bottles and Jars.



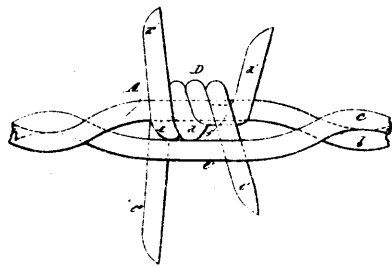
14639 Smith's Improvements on Smoke Consuming Furnaces.



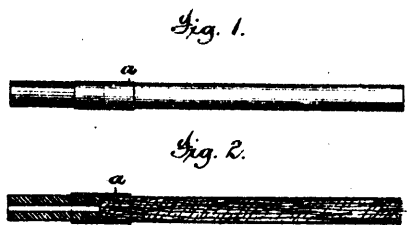
14640 Farquhar, Norris & Beaudry's Improvements on Ferry Boats or Tow Boats.



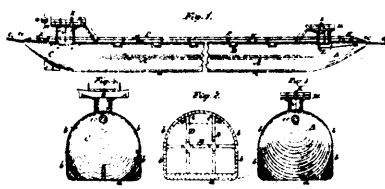
14641 Haddock & Frank's Improvements in Cable Street Railroads.



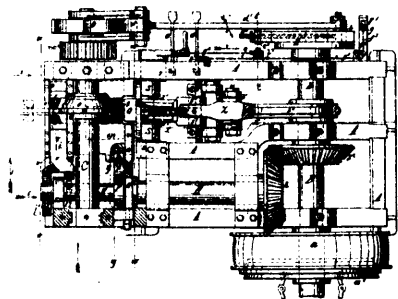
14642 Shin's Improvements on Barbed Wire Fences.



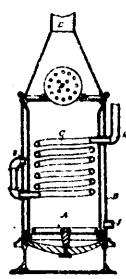
14643 Cuppla's Improvements on Cigarettes.



14644 McDougall's Improvements on Tow Boats.



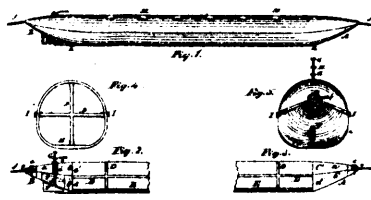
14646 Bowman & Almquist's Improvements in Machines for Making Spikes.



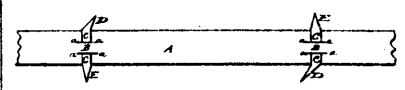
14647 Smith's Improvements on Water Heaters.



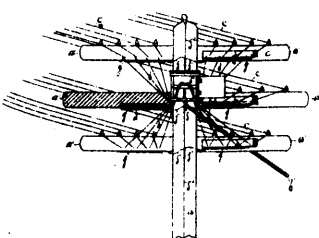
14649 Dear's Improvements on Staples.



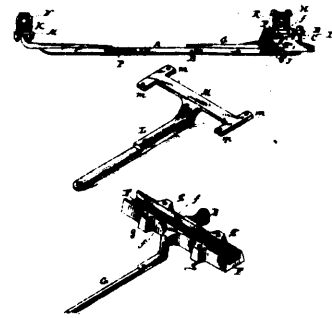
14950 McDougall's Improvements in Tow Boats.



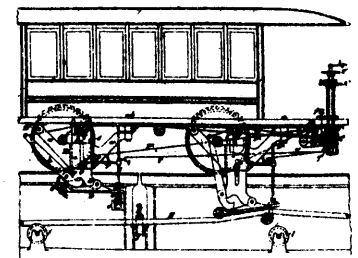
14654 Walmesley's Improvements on Metal Barbed Fencing.



14655 Fitch's Improvements in Means for Protecting Lightning Arresters.

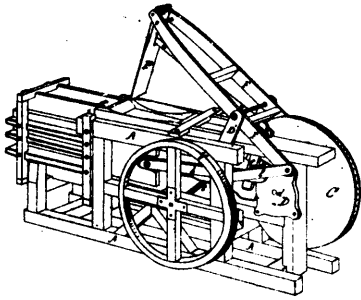


14656 Herbrand's Improvements in Running Gears for Vehicles.

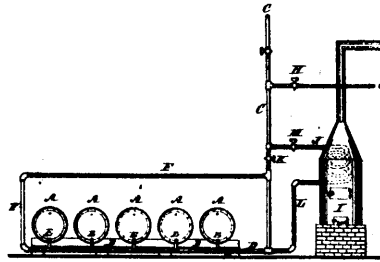


14657 Haddock & Frank's Improvements in Cable Railways.

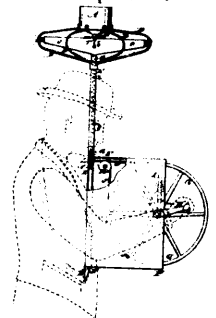




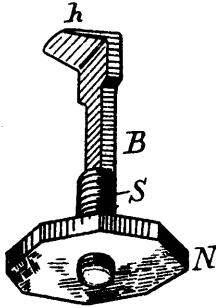
14658 Trenholm's Improvements in Hay Presses.



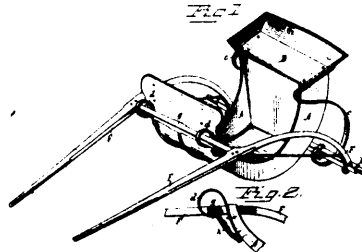
14659 Ellie's Improvements on Steaming, Cleansing and Drying Casks.



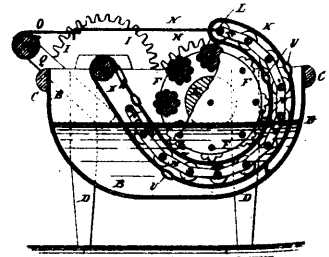
14660 Waddell's Improvements on Broad Cast Sowers.



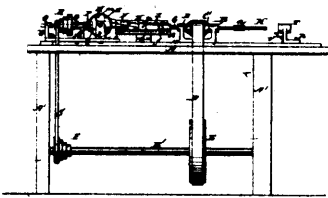
14661 Savole's Improvements in Door Fasteners.



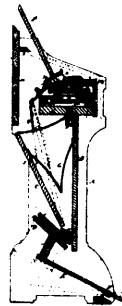
14662 Callan's Improvements on Road Carts.



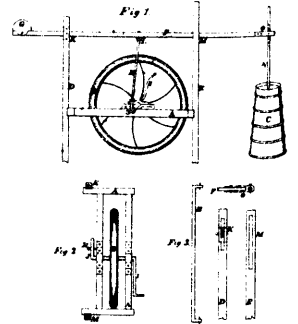
14663 Atwater's Improvements on Washing Machines.



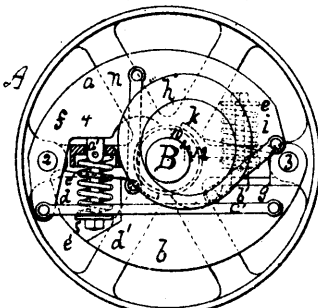
14664 Noyes's Improvements on Cork Cutters.



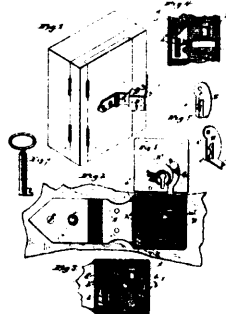
14665 Newell's Improvements on Reed Organs.



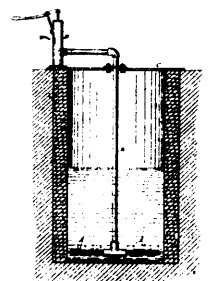
14666 Haley & Teakles's Improvements on Churns.



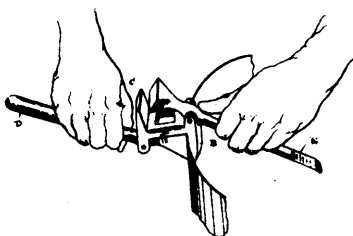
14667 Armington's Improvements on Steam Engine Governors.



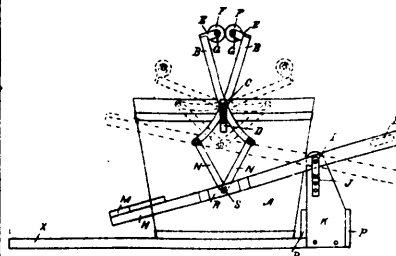
14668 Kriebbaum's Improvements in Hasp Locks.



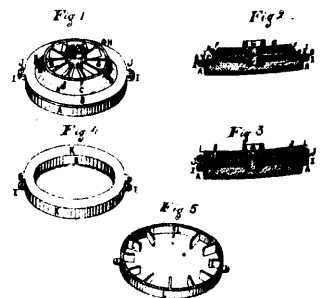
14669 Collins's Improvements on Water Purifying Apparatus.



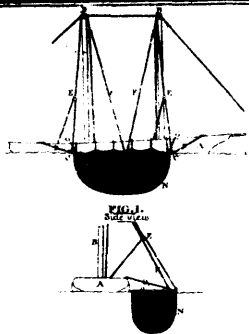
14672 Volk's Improvements on Stove Pipe Fitters and Lid Lifters.



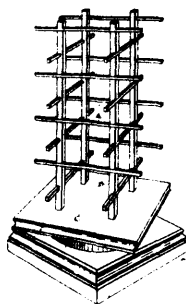
14673 Taylor's Improvements on Mop Wringers.



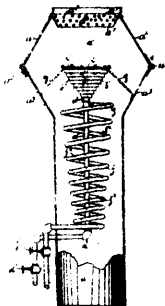
14674 Washburn's Improvement on the Process of Manufacturing Car Wheels and Moulds Therefor.



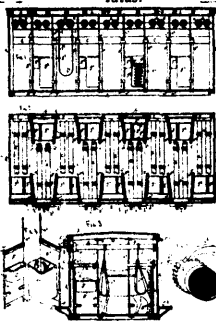
14675 Willard's Improvements on Fishing Apparatus.



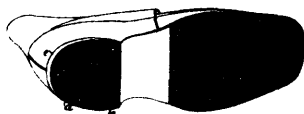
14676 Mitchell's Cloth Exhibitor.



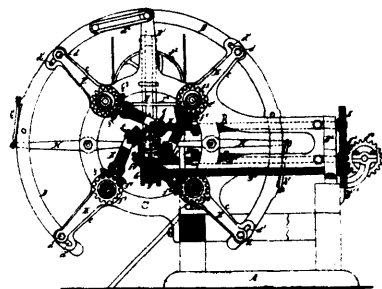
14677 Deyell's Improvements in Spark Extinguishers.



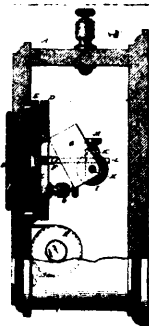
14678 Hicks's Improvements in Stock Cars.



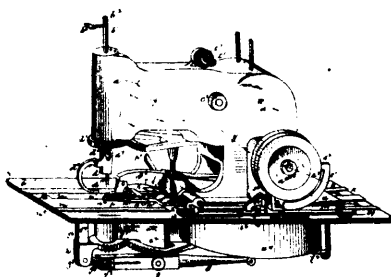
14679 Richardson's Improvements in Boots and Shoes.



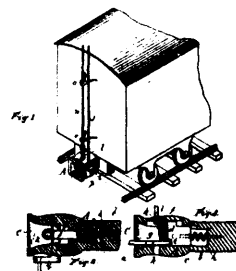
14680 Sprague's Improvements in Machines for Cutting Green Corn.



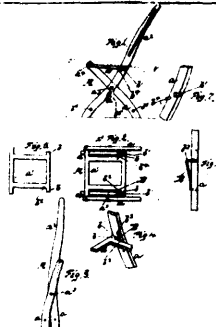
14681 Olmsted's Improvements in Telephone Transmitters.



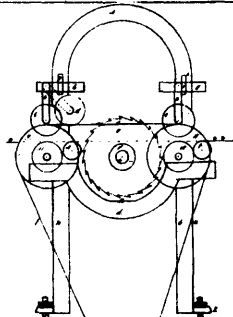
14682 Reece's Improvements on Button Hole Sewing Machines.



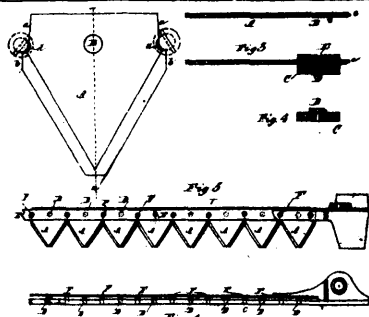
14684 Terry's Improvements in Car Couplings.



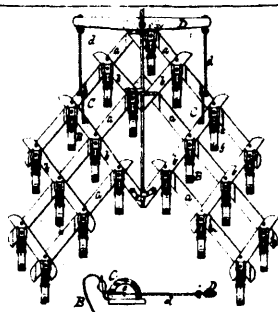
14685 Flint's Improvements in Folding Chairs.



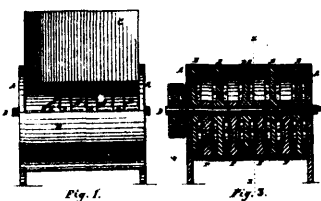
14686 Campbell's Machine for the Manufacture of Small Lumber.



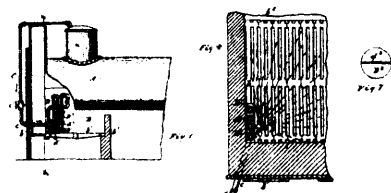
14687 Ramsay's Improvements in Knives for Reapers.



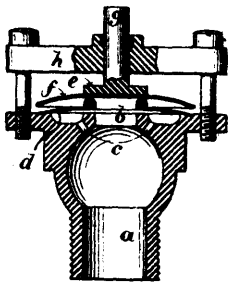
14688 Nellie's Improvements on Harrows.



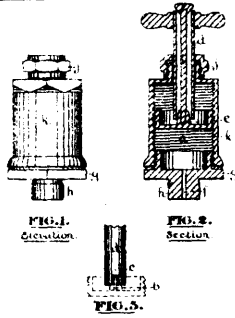
14689 Thorp's Improvements in Oatmeal Machines.



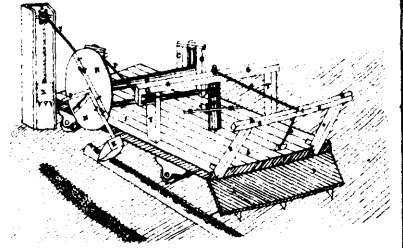
14690 Olson's Improvements in Smoke Consumers.



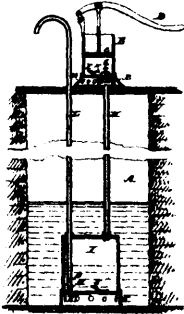
14691 Grinnall's Improvements in Fire Extinguishers.



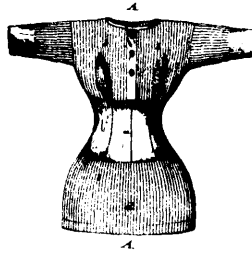
14692 Winslow's Improvements on Lubricating Cups.



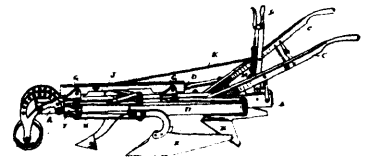
14694 Hales's Improvements on Ditching Machines.



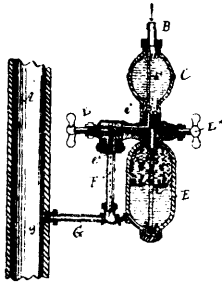
14695 Bickford's Improvements on Compressed Air Water Elevators.



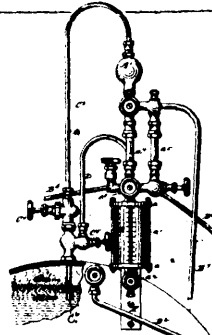
14696 Appleton's Improvements in Undershirts.



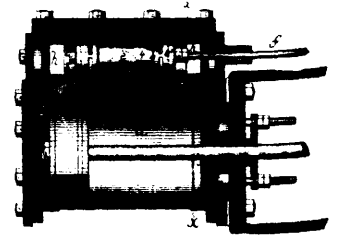
14697 Moore's Improvements on Scuffers.



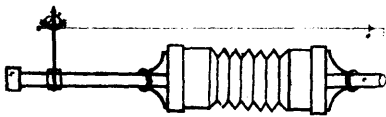
14698 Holland's Improvement in Lubricators.



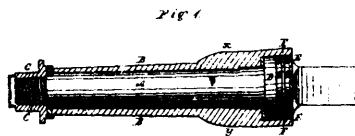
14700 Baker's Improvement in Lubricators.



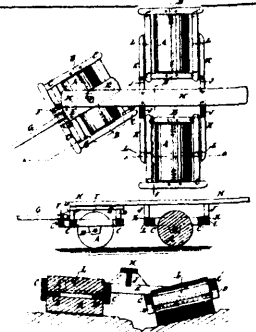
14701 Armington's Improvements on Steam Valves.



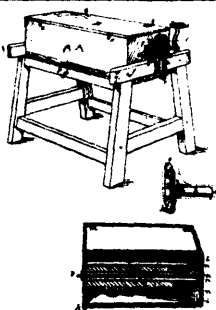
14702 Hurley's Apparatus for Heating Railway Cars from the Locomotive.



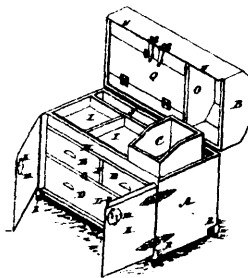
14703 Cook's Improvements on Axles.



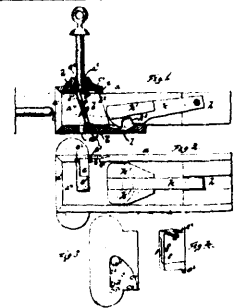
14704 Moore's Improvements on Field Rollers.



14705 Wright's Improvements on Churns.



14706 Hurst's Improvements on Trunks.



14707 Sherman's Improvements in Car-Couplings.