

ment to the beam, with its point directed either forward or to the rear, said tooth having a shank constructed for attachment to the beam, so as to sustain the tooth with its point forwardly directed for digging of an annular casting for connecting the said shank with the beam when the tooth is reversed for surface cultivation, substantially as set forth. 4th. The combination, with a tooth beam and a reversible, curved and twisted tooth, adapted for attachment to the beam, with its point directed either forward or to the rear, said tooth having its shank adapted for attachment to the beam, so as to sustain the tooth with its point directed forwardly for deep digging, of means, substantially as described, for adjustably connecting the said shank with the beam when the tooth is reversed for surface cultivation, whereby the angle of the working edge of the tooth with reference to the ground may be varied, substantially as set forth. 5th. The combination, with a tooth beam and a reversible, curved or twisted tooth, and an adjustable wedge-shaped casting having cruciform recesses, and a bolt securing the tooth and casting to the beam, whereby the desired pitch may be given to the tooth lengthwise or laterally of the beam by partly rotating the casting, as set forth.

#### No. 24,721. Fifth Wheel for Vehicles.

(Rond d'Avant-tram de Voiture.)

William W. Grier, Verona Borough, Penn., U. S., 12th August, 1886, 5 years.

**Claim.**—1st. The combination, with the front axle and head block of a spring hanger situate back of the axle and above the level of the bottom thereof, substantially as and for the purposes described. 2nd. The combination of a fifth wheel, a king-bolt situate back of the axle, and a spring hanger mounted on the king-bolt, substantially as and for the purposes described. 3rd. The combination of a head block, a spring hanger situate above and back of the axle, and springs extended from substantially a common point in the hanger and diverging to the rear axle, as and for the purposes described. 4th. The combination of a head block, a king-bolt situate back of the axle, and a spring hanger having a socket which is mounted on the king-bolt, substantially as and for the purposes described. 5th. The combination of the circle plates of a fifth wheel, a king-bolt situate back of the axle, a spring hanger on the king-bolt, and a brace extending from the king-bolt to one of the circle plates, substantially as described.

#### No. 24,722. End Gate Fastening for Waggon Boxes.

(Fermeture de Hayon de Wagon.)

Duncan W. McKinnon, North Sidney, N. S., 12th August, 1886; 5 years.

**Claim.**—The combination, with the gate, of the rod or shaft on the same, and having lateral hooks engaging with the braces on the sides of the wagon body, said shaft having a lug acted upon by a spring of the gate, and the handle connected to said shaft, and having its lower end formed with a hook bearing against said gate, substantially as and for the purpose set forth.

#### No. 24,723. Air Pressure Pump and Air Vessel.

(Pompe et Reservoir à Air.)

James Yule, Hamilton, Ont., 12th August, 1886; 5 years.

**Claim.**—1st. The combination of the air pump *a*, with *b*, bearing *B*, crank wheel *C*, piston rod *D* with piston, and the valves *e* and *e'* and tap *e''*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the pump *a*, the valves *e* and *e'*, the tap *e''*, the tube *F* and air vessel *G*, provided with the preparation *H* having holes for tubes *I*, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the pump *a*, tube *F*, air vessel *G*, with pipe *O* and indicator *P*, the tube *I*, plug *J*, pipe *L*, lever *n* and barrel *k* or its equivalent, substantially as and for the purpose hereinbefore set forth.

#### No. 24,724. Felt Boot Felter and Expander.

(Machine à Feutrer et Etirer les Bottes de Feutre.)

Casper S. Grosch and Robert W. Rolston, Chesley, Ont., 12th August, 1886, 5 years.

**Claim.**—1st. A hollow foot *A* formed with perforations *B*, *B*, in combination with a tubular arm *C*, substantially as shown and described and for the purpose specified. 2nd. The hollow foot *A*, formed with the perforations *B*, *B*, and tubular arm *C*, in combination with the felted leaf *E*, operated by any suitable operating device, substantially as shown and described and for the purpose set forth. 3rd. The placing of the hollow foot *A*, in which perforations *B*, *B*, are formed in the felt boot tube and conducting stream thereto by a tubular arm *C* or its equivalent, substantially as shown and described and for the purpose specified. 4th. An expanding arm *L* operated by any suitable operating device, and held and guided by guides *o*, *o*, or their equivalent, substantially as shown and described and for the purpose specified. 5th. The springs *N*, *N*, substantially as shown and described and for the purpose specified. 6th. The expanding arm *L*, operated by any suitable operating device and held and guided by guides *o*, *o*, or their equivalent, in combination with the springs *N*, *N*, substantially as shown and described and for the purpose specified.

#### No. 24,725. Hold-Back Attachment for Harness.

(Ragot de Limonière.)

William Chegwin and William A. Eldredge, Fond du Lac, Wis., U. S., 12th August, 1886; 5 years.

**Claim.**—1st. A hold-back consisting of a plate adapted for attachment to the under side of a shaft, and provided at one edge with a downwardly-extending standard *b*, a finger extending below the plate from said standard, and a guard constructed down past the side of the finger at the opposite edge, constructed to leave an unobstructed passage beneath the finger, substantially as described. 2nd.

The combination, with a shaft, of a hold-back consisting of a plate, a downwardly-projecting standard, and lateral finger below the plate, and a guard extending downward past the finger to leave a passage below the finger, as set forth. 3rd. A hold-back attachment consisting of a plate having a standard at one edge, and two guards at the other, and a finger projecting from the standard parallel to the under side of the plate and extending between the guards, with a passage below the finger, substantially as set forth. 4th. The plate, the pin supported adjacent thereto, and the fingers extending opposite and below the pin, whereby the loop must be compressed to carry it inward into the pin, for the purpose set forth. 5th. The combination of the looped end of the strap with the pin or hook, to connect the hold-back strap with the thill, substantially as described.

#### No. 24,726. Gland or Packing Follower for Packing Boxes of Steam and other Engines.

(Chapeau de Boîte à Etoupe pour Machines à Vapeur et autres.)

Robert M. Fryer and Timothy O'Meara, Brooklyn, N. Y., U. S., 12th August, 1886; 5 years.

**Claim.**—1st. In a stuffing box for holding packing, a gland provided inside of the barrel which enters the stuffing box with a packing chamber, and at the end between this and the packing of the main stuffing box, an annular recess or chamber provided with a passage leading to a condenser or to the open air, as and for the purposes described. 2nd. In a stuffing box for holding packing, a gland provided between the piston rod and the walls of said stuffing box, with an annular chamber provided with a passage in said gland, between the packing chamber in the same and the walls of the main stuffing box, the said passage connecting at the flange of gland with an angular passage leading to a condenser or to the open air, for the purpose above set forth. 3rd. In a stuffing box for steam engines, a gland provided inside next to the piston rod, with a packing chamber adapted to receive a gland within the radius of main gland, and also a passage to the flange of said main gland, as shown, all being combined with an annular recess within the said main gland between its face and the main packing of the stuffing box, substantially as and for the purpose set forth.

#### No. 24,727. Shifting Seat for Sleighs.

(Siège Mobile de Traîneau.)

John G. Doyle and William H. Doyle (assignees of William H. Steinbrecker), Detroit, Mich., U. S., 13th August, 1886; 5 years.

**Claim.**—1st. The sleigh seat *C*, having the folding L-shaped end portions a hinged to said seat by means of the L-shaped irons *a*. 2nd. In a sleigh seat, the seat *C* having hinged L-shaped end portions, said seat being secured to the frame *F* by hinges *d*, said hinges having L-shaped extensions *d'* with lugs *d''* and pintals *e'*, connecting bars *F*, reciprocating braces *D*, said braces pivoted to the frame *F*, the whole when arranged and combined as specified. 3rd. The combination of the seat *B*, having jump-irons *b* pivoted thereto, the hollow braces *E* pivoted to the lugs *n*, said braces containing pins *o*, coil-springs *r*, internal bolts and square openings *L*, said openings and internal bolts engaging with the sockets containing holes *e* of the braces *b*, as and for the purposes set forth. 4th. The combination of the seat *B* having the rail *B* attached thereto, the braces *E* pivoted to the lugs *n*, with jointed braces *e* pivoted at *y* and to the lugs *r*, the lower portion of the braces *e*, adapted to fold within the longitudinal openings of the braces *E*, as and for the purposes specified. 5th. In a sleigh, the seat *B* having the jump-irons *b* attached thereto, the seat adapted to move backward over the sleigh box, and supported by folding brace irons attached thereto and to the runner braces, for the purposes set forth.

#### No. 24,728. Stove Pipe Coupling.

(Joint de Tuyau de Poêle.)

Angus Campbell, Powassan, and Gilbert McEachern, Nipissing, Ont., 13th August, 1886; 5 years.

**Claim.**—A stove pipe coupling consisting of the band *C*, having swages *D* and provided with an eye or opening *E*, and a catch *G* near opposite ends, whereby the band can be drawn around the stove pipe by a lever, as set forth, and the ends locked together, as described.

#### No. 24,729. Gate Hinge.

(Penture de Barrière.)

Adam M. Garman, Sinking Creek, and Abraham Crumacker, Blacksburg, Va., U. S., 13th August, 1886; 5 years.

**Claim.**—The gate post having the sockets *d*, in combination with the gate provided with the upper and lower slotted straps *B*, the bar *C* longer than the gate provided at its ends with pivots *c*, *c*, working in the sockets *d*, and having notches *F* on its forward edge below the centre, and notches *F* on its rear edge above the centre, and holes *E* along its length, and pins *e* passed through the holes, the straps *B* encompassing the bar *C* above the pins *e* so as to rest on and be supported thereby, the rear walls of the slot in the upper strap engaging the upper rear notches *F*, and the front wall of the slot in the lower strap engaging the lower forward notches *F*, as set forth.

#### No. 24,730. Lubricator for Car Axles, etc.

(Boîte à Graisse pour Essieux de Chars, etc.)

Frederick G. Brownell and Theodore S. Peck, Burlington, Vt., U. S., 13th August, 1886; 5 years.

**Claim.**—1st. The combination of the right and left screw-threaded or grooved lubricating roller, the chain or conveyor and the axle or journal, as and for the purposes set forth. 2nd. The combination of the axle, the housing box, the lubricator frame applied to the side of the axle, the lubricating roller and its pivoted supporting arms or bracket, the chain or conveyor and the springs, arranged and operating as set forth. 3rd. The pivoted or folding lubricator frame *D*, *D*, in combination with the lubricating roller, its pivoted supporting