No. 36,260. Cart. (*Charette.*)

Robert Day Scott, Pontiac, Michigan, U. S. A., 1st April, 1891; 5 years.

Claim.—1st. In a road cart, the combinationn, with the body connected by pivoted links with the shafts, of longitudinal springs B, on the shafts, the rear of the body being supported from the rear ends of said springs by pivoted links, substantially as described. 2nd. In a road cart, the combination, with the body and shafts, of springs B, on said shafts, and pivoted links engaging the rear of the body with the rear ends of said springs, and means for vertically adjusting the rear end of the body, substantially as described. 3rd. In a road cart, the combination, with the body and shafts, of springs B, on said shafts, and pivoted links engaging the rear of the body with the rear ends of said springs, said pivotal links being in the form of spiral springs, substantially as described. 4th. In a road cart, the combination, with the body and shafts, of springs B, on said shafts, said body supported at its forward end by links from the shafts, and supported at its rear end by links from the rear extremities of said springs, said supporting links being in the form of spiral springs, substantially as described. 5th. The combination, with the shafts and body of brackets D, and links whereby the forward end of the forward part of the body is supported, said links engaged with said brackets, substantially as described.

No. 36,261. Method of Oiling Journal Boxes. (*Manière de huiler les coussinets de tourillon.*)

Julius E. Waterous, Brantford, Ontario, Canada, 1st April, 1891; 5 years.

Claim.—1st. The combination of a journal box A, shaft B, and chain D, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the chain D, placed loosely on the shaft B, in the annular recess C, forming a loop around the shaft so that the lower side of the loop passes downward into the oil reservoir F, substantially as and for the purpose hereinbefore described. 3rd. The use of a flat chain placed upon a shaft in a journal box, having numerous joints, so that it comes in contact with the shaft for at least one half its circumference, substantially as and for the purpose hereinbefore described.

No. 36,262. Machine for Sharpening Calks of Horse Shoes. (*Appareil pour affiler les crampons de fer à cheval.*)

Thomas Spellman, Halifax, Nova Scotia, Canada, 1st April, 1891; 5 years.

Claim.—The application of an emery wheel of shifting plane to that particular service, substantially as and for the purpose hereinbefore set forth.

No. 36,263. Shingle Sawing Machine.

(*Machine à scier le bardeau.*)

Willis J. Perkins, Grand Rapids, Michigan, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. A shingle sawing machine having saws mounted on vertical arbors, and a rotary bolt carriage 5, supported on a vertical shaft 1, in combination with a lever *a*, extending from the outside of the frame A, to the central shaft 1, fulcrumed near and having a bearing on said shaft, whereby said shaft and carriage 5, may be lifted to permit access of the saws, substantially as described. 2nd. The combination, with the rotary carriage 5, of a shingle sawing machine, of a central vertical supporting shaft 1, a lever *a*, stepped under said shaft and extending outside the frame of the machine, and a swing piece *f*, attached to the frame and adapted to engage said lever *a*, and hold it up or down, substantially as described. 3rd. The combination, with the rotary carriage 5, and central vertical shaft 1, of a shingle sawing machine, of a lever *a*, formed in sections *a*, *c*, the inner section *a*, fulcrumed near and engaging the central shaft of the carriage, and the outer section *c*, extensible beyond the outer portion of the frame of the machine, substantially as described. 4th. The combination, with the rotary carriage 5, of a shingle sawing machine, of a dog 8, near the periphery of said carriage, a bent arm 13, pivotally connected at its outer end to said carriage, and at its inner end bearing an anti-friction roll 14, a spring 9, surrounding said arm, having an abutment 10, on the carriage, and an adjustable abutment 11, on the arm whereby the pressure of the spring may be regulated and a cam or incline 15, on the frame against which the anti-friction roll has a bearing in the rotation of the carriage, substantially as described. 5th. The combination, with the rotary carriage, of a shingle sawing machine, of a dog 8, near the periphery thereof, and guided in radial ways 18, of said carriage, an arm 13, connected to said dog and extending inwardly past the staticnary dog 19, toward the center of the carriage, a spring 9, pressing said dog and arm inwardly, a cam surface 15, on the frame in position to press out the said arm during a portion of the revolution of the carriage, and a support 16, for the inner end of said arm, substantially as described. 6th. The combination, with the rotating carriage 5, having a rack, of a shaft bearing a pinion 31, engaging said rack, a pulley 35, on said shaft, a counter-shaft 37, toward the opposite side of the machine having suitable pulleys, and a belt connection to the pinion shaft, a saw shaft and a belt connection from said saw shaft straddling the central arbor connecting to one of the pulleys 36, on said countershaft, as set forth. 7th. In a shingle sawing machine, in combination a horizontal saw, a tilt-table 21, supported on a universal bearing 55, a pendent lever 50, connected to said table, means for tilting the table longitudinally, and a shifter 120, for operating the table laterally during the longitudinal movement, whereby the table is tilted longitudinally and laterally at the same time, substantially as described. 8th. The combination, with the horizontal saws and rotary carriage, of a shingle sawing machine of the character described, of a tilt table 21, at each side of the machine, a train of mechanism 104, by which either tilt-table 21, may be tipped by power communicated from the rotary carriage, a handle 104, near the operator's position, and connections, substantially as described, leading from the handle to the tilt-table, whereby the tilt tables 21, may be separately thrown into operation, as set forth. 9th The combination, with the rotating saws and carriage, of a tilt-table 21, at each side of the machine, a train of mechanism 104, substantially as described, whereby each tilt-table may be separately actuated from the rotary carriage, a handle 104, pivoted to the frame near the operator's position, a rod 103, connecting said handle to the tilt-controlling catch 101, at one side of the table, and a lever 108, and controlling catch connected to said rod, whereby the other rod (107, and 158, figs. 2, and 5), is actuated by moving the handle in the reverse direction, as set forth. 10th. The combination, in a shingle sawing machine, of a tilt table 21, an oscillating beam 76, for rocking the same, a rotating cam 81, engaging said beam, a power driven rocker 82, and a clutch 88, by which said rocker and cam may be thrown into connection. 11th. The tilt-table 21, and its walking beam 76, the loosely mounted cam 81, the rock shaft 82, and rocker wheel 88, fixed thereto, a clutch 85, between the rocker and cam, and a holding stop 95, by which the rocker is held so that the clutch 89, cannot come into engagement. 12th. The oscillating beam 76, of the tilt-table 21, engaging the race cam 81, a rocker wheel 88, in proximity to the race cam 81, having two stops 85, and 89, thereon, and a detent in position to swing in front of one or the other of the stops of the rocker the specified elements, in combination, as set forth. 13th. The combination, with the tilt-table 21, and its rocking beam 76, of the race cam 81, engaging said beam 76, the rock shaft 82, on which said cam 81, is loosely mounted, having a rocker wheel 88, thereon, provided with a series of stops 85, and 89, a clutch 85, between the rocker wheel and the cam, and a plurality of detents 83, and 84, in position to engage the stops 85, and 89, on the rocker wheel 88, and a handle 104, on the frame near the operator's position, by which said detents are operated, substantially as described. 14th. The rotating carriage having block receptacles, and projections 22, equal in number to the receptacles, the rock shaft 82, having an arm 110, in position for engagement with each of these projections 22, a spring 92, tending to rock said arm into position for engagement with said projections, and a detent 95, which holds said spring 92, under tension, and the arm 110, out of engagement, all combined, substantially as described. 15th. The combination, with the rotating carriage rock shaft 82, and mechanism for throwing the shaft into engagement, as described, of the race cam 81, on the rock shaft 82, a clutch 89, whereby the shaft may be engaged to move the race cam, and a stop 101, fixed to the frame and engaging said race cam 81, to hold it (and the tilt-table) in fixed position at the extreme of the movement of the table, substantially as described. 16th. The combination, with the tilt-table 21, and its oscillating beam 76, of the rock shaft 82, and race cam 81, thereon engaging said beam the rocker wheel 88, a catch 89, on said wheel in position to engage the race cam 81, and a pawl 85, on the frame in position to engage the race cam 81, and to be lifted by the incline 87, on the rocker wheel 88, substantially as described. 17th. The combination, with the tilt-table 21, and its walking beam 76, the race cam 81, engaging said beam and the clutch pawl 89, and connecting mechanism, substantially as described, by which the race cam 81, is actuated from the rock shaft 82, of a detent 83, for operating the clutch pawl 89, the first time, and having engagement with the race cam 81, for causing a second engagement of the clutch pawl, substantially as set forth. 18th. In a shingle sawing machine and in combination, a horizontal saw, a rotating carriage having block receptacles, a tilt-table 21, mounted on universal bearing 55, beneath said carriage mechanism for tilting said table laterally, and a bearing 223, on the frame against which a portion of the table is carried to produce a limited swing of the table in longitudinal direction. 19th. The combination with a rotating carriage and horizontal saw, of a tilt-table 21, having automatic adjustment in all lateral directions, substantially as described. 20th. The combination, with a rotary carriage and horizontal saws, of a tilt-table 21, and mechanism for tilting the same, a rigid pendulous attachment to the tilt-table, and a bearing surface 223, on the frame, whereby the pendulum may be swung out of true, substantially as set forth. 21st. The combination, with a rotary carriage and horizontal saws, of a tilt-table 21, having a rigid pendulous attachment 50, an adjustable piece 120, on said attachment, and an adjustable bearing 223, on the frame against which said pendulum is supported. 22nd. The tilt-table 21, supported on wedges 62, having grooves on their lower surfaces, the inverted cups 70, having splines entering said grooves, and the screw collars 72, and movable risers 74, entering said cups 70, all the specified elements combined, substantially as described. 23rd. The tilt-table 21, guided by a universal bearing 55, a pendulum lever 50, fixed to the table and passing through said bearing, and an adjustable incline on said pendulum 120, engaging a projection 223, on the frame, all the specified elements, in combination, with mechanism for tilting the table, substantially as described. 24th. The combination, with the frame and rotating carriage, and the movable piece 76, for operating the tilt of the operator's table 140, in proximity to the carriage, a hinge 141, connecting said operator's table to the frame, and an indicator 220, on the table to show the position at which the tilt must be shifted. 25th. In a shingle sawing machine, the combination of a horizontal saw, a rotating carrier, a tilt-table 21, mounted on a universal bearing 55, beneath the carrier mechanism 120, for rocking the tilt-table in lateral direction, and an adjustable bearing 223, on the frame against which part of the table is carried to produce limited longitudinal oscillation, as set forth. 26th. In a shingle sawing machine, the combination of the saw, the rotating carriage having bolt receptacles which move over the saw, a bolt supporting way consisting of two concentric circular tracks 20, and two movable sections 150, and 151, side by side and forming part of said tracks adapted to be displaced from normal position under the bolt. 27th. The saw and carriage, substantially as described, the circular guideway 20, movable sections 150, and 151, in and forming part of said guideway supported on hinged posts 152, and 155, the lever me-