being spaced farther apart than those near the centre, for the purpose set forth, a grappling-chain connected to one end of said link and a staple at the other end thereof, of a fastening chain, a clevis connected at its outer end thereto, and having longitudinal horizontal arms embracing said link and passing loosely through said staple, a bifurcated lever embracing said link to which lever the inner end of the clevis is pivoted, the operating edge of said lever at points equi-distant from said pivot, having two inner and two outer notches and two pins removably seated in certain of the holes in the same series at each side of the link, the pins being moved as the lever is operated, substantially as described.

No. 34,830. Hay Press. (*Presse à foin.*)

Hermas Larose and Xavier Privé, Verchères, Que., 7th August, 1890: 5 years.

Claim.—1st. In a hay press, the combination, with the box A, opening *a*, plunger C, knife *c*, rods D, links *d*, of the pulley G, chain T, rod S, plate N, crank R, friction roller *s* operated by the catches M, *m*, *n*, plate or projection N, plate L, shaft K, collar *k*, frame O, I, J, *i*, *j*, and arm P, substantially as set forth. 2nd. In a hay press, the combination, with a horse power consisting of the frame O, I, J, *i*, *j*, arm P, revolving shaft K, *k*, plate L, catches M, *m*, *n*, plate N, crank R, and rod S, of the chain T, pulley G, operating plunger of a press, substantially as set forth. 3rd. In a hay press, the combination of a shaft K journalled in a suitable frame, of the plate L, catches M, *m*, *n*, and plate N, operating a crank connected with a press, substantially as set forth.

No. 34,831. Wire Hanger for Plaques. (*Porte-plaque.*)

Frederick J. Rice, Toronto, Ont., 7th August, 1890; 5 years.

Claim.—1st. The combination of the arms A, B and C, and the sextagonal form with the loop D, as and for the purpose hereinbefore set forth. 2nd. The combination, with the arms A, B and C, with the sextagonal form, with the loop D and the placque, substantially as and for the purpose hereinbefore set forth.

No. 34,832. Process and Apparatus for Refining Fumes. (*Procédé et appareil pour purifier les fumées.*)

Frank L. Bartlett, Portland, Me., U.S., 7th August, 1890; 5 years.

Claim.—1st. The herein described process of refining fume containing sulphur compounds, which consists of passing the fume through a heated tube in an atmosphere of sulphurous gas, and out of contact with air, substantially as described. 2nd. The herein described process of refining fume, which consists of passing the fume through a heated tube, and continually stirring and scraping it from the walls of said tube during its passage through the same, substantially as described. 3rd. The herein described apparatus for refining fume, which consists of an elongated chamber or tube having its lower portion cylindrical, a furnace for heating the same, and a coreless helical screw within said tube adapted to rotate relative thereto, and composed of a coiled bar, having an outer spiral edge adapted to come in direct contact with the cylindrical bottom of said tube, substantially as described.

No. 34,833. Side Spring Running Gear for Vehicles. (*Train de voiture à ressorts de côté.*)

Thomas J. Story, Gananoque, Ont., 7th August, 1890; 5 years.

Claim.—1st. A side spring running gear, having the bottom plate of each spring set so as to converge towards the centre of the front axle, to which it is suitably connected, and the top plate of each spring set so as to diverge towards the end of the rear axle, to which it is suitably connected. 2nd. A side spring running gear, having the bottom plate of each spring set so as to converge towards the centre of the front axle, and passing between the said axle and its head block, is securely connected by the king-bolt F, brace G, and safety brace I, substantially as specified.

No 34,834. Manufacture of Boots and Shoes. (*Fabrication des chaussures.*)

Robert W. Ross, Port Moody, B.C., 7th August, 1890; 5 years.

Claim.—1st. The upper guard A, as a continuous moulded metal plate, protecting the entire exposed projection of the vamp from the toe to the hollow of the foot with its clips, and lock, as shown. 2nd. The sole-plate or guard, with its clips, toe plate, and screw attachment. 3rd. The combination of upper guard and sole guard, and their adaptation to any size or style of boot or shoe.

No. 34,835. Machine for Affixing Emery Wheels to Sewing Machines, or other Machines Worked by a Foot Pedal, and with Foot Power for use in Grinding Knives, Tools and other Instruments. (*Machine à attacher les tambours à éméri aux machines à coudre et autres, actionnées par des marches.*)

Alfred Huggins, Monkton, Ont., 7th August, 1890; 5 years.

Claim.—In a domestic knife grinder, the combination of the spindle C, adjustable box D, with emery wheel A, and pulley B, the whole attached to table by clamp E, as and for the purpose described.

No. 34,836. Horse Poke. (*Carcan à cheval.*)

Samuel B. Little, Barrington, Que., 7th August, 1890; 5 years.

Claim.—1st. A horse and animal poke, constructed substantially as hereinbefore shown and described, consisting of a forked end, and a forwardly-extending and terminally-curved tongue, having the means of attachment to the animal to be controlled or held in check by it, such as are set forth. 2nd. In a horse and animal poke, the combination, with the part or member A, having the bifurcations *b*, and rings *a*, *a*, and loops *e*, *e*, of the straps B, C, D, E, all substantially as set forth.

No. 34,837. Wet Method of Extracting Gold from Ores. (*Procédé humide pour extraire l'or des minerais.*)

James H. Pollock, Glasgow, Scotland, 7th August, 1890; 5 years.

Claim.—The improvement in the wet method of extracting gold from ores, consisting in the addition in the chlorinating vessel, after the chlorinating operation, of a suitable quantity of alkali, by means of which the excess of reagent is neutralized and absorbed, and rendered available for further use.

No. 34,838. Rod Packing. (*Garniture de tige.*)

John T. Martin, Scranton, (assignee of Francis P. Martin, Easton,) Penn., U.S., 7th August, 1890; 5 years.

Claim.—1st. In a piston rod packing for steam engines, the combination, with the cylinder head having steam openings therein, of an annular seat provided with similar apertures having one end lying in a circular channel adjacent to the cylinder head, a ring support surrounding the piston rod and seating at one end on a steam tight seat on the annular seat inside the steam openings, said ring support having separate interior circumferential seats provided with circumferential steam passages communicating with apertures drilled through the wall of said support, compressible cleft rings lying in said seats, a cylindrical casing inclosing the support, and provided with interior steam channels, and means for attaching said casing to the cylinder head, substantially as described. 2nd. In a piston rod packing for steam engines, the combination, with a cylinder head having live steam apertures pierced therein, of an annular seat of metal having a raised steam tight seat outside of a series of steam apertures formed in said seat and communicating with the live steam apertures in the cylinder head, a cylindrical casing and a sectional ring support within said casing, a series of cleft packing rings arranged in separate seats, having interior circumferential steam ways formed within said ring support, and means for connecting the cylindrical casing to the cylinder head, whereby a steam joint is formed between the meeting edges of the same and of the rings, the live steam openings having communication with steam entrances introducing live steam behind the packing rings, substantially as described. 3rd. In a piston rod packing for steam engines, the combination, with a cylinder head having a series of steam openings surrounding the piston rod opening, of a metallic annular seat having on one face a raised steam tight seat, making a steam-fit with the cylinder head, a series of steam apertures piercing said seat within the raised face or steam tight seat, a ring support consisting of two similar parts, each containing a seat for a packing ring, and a fractional seat for a packing ring intermediate of the other seats, said ring support resting upon the annular seat within the steam entrances, cleft packing rings lying in the seats and embracing the piston rod, and an outer cylindrical casing resting upon the annular seat and surrounding the ring support, an annular steam chamber being formed between the two, and communicating with the interior of the cylinder by means of steam ways formed in the inner face of the casing, and with the ring seat by means of steam openings entering said ring seats, behind the rings, substantially as described.

No. 34,839. Car Coupling. (*Attelage de chars.*)

James R. Avery, Louisville, Ky., U.S., 8th August, 1890; 5 years.

Claim.—1st. In the couplerhead of a car coupler, the link cavity *a*, in combination with the entrance and opening thereto, and pin hole there through, substantially as and for the purposes hereinbefore set forth. 2nd. In the coupler head of a car coupler, the sub-cavity a^1, in combination with the link cavity, substantially as and for the purposes hereinbefore set forth. 3rd. The socket a^2, in the coupler head of a car coupler, in combination with the sub-cavity and hollow neck, substantially as and for the purposes hereinbefore set forth. 4th. The transverse slot a^3, in combination with the hollow neck of the coupler head of a car coupler, substantially as and for the purpose hereinbefore set forth. 5th. The coupler head A, of a car coupler having the link cavity *a*, the entrance and opening thereto, and vertical pin hole there through, the sub-cavity a^1, the draw bar socket a^2, hollow neck and transverse slot a^3, in combination, substantially as and for the purposes hereinbefore set forth. 6th. In combination with the coupler head of a car coupler, the draw bar B, substantially as and for the purpose hereinbefore set forth. 7th. In the combination of a car coupler, the cross bar C, substantially as and for the purposes hereinbefore set forth. 8th. In a car coupling, the cross bar C, in combination with guards connecting it with a coupler head or front end of a draw bar, substantially as and for the purposes hereinbefore set forth. 9th. In a car coupler, the guards D, or equivalents, connecting a cross bar with a coupler head or draw bar, substantially as and for the purposes hereinbefore set forth. 10th. In a car coupler, attachment plates G, having transverse grooves in the upper and lower edges, forming bearings for lugs and cross ties or bars, either or both connecting the draft timbers, or secured thereto with rods or bolts to prevent the spreading and splitting of said timbers, substantially as and for the purposes hereinbefore set forth. 11th. In a car coupling, the combination of a coupler head having a transverse slot through its neck, a