

ination, with the expansible cell or case of a secondary battery, of a bent or bowed metal strip E secured to the side of the cell at two points, the contact strip F extending under the same, an electrical connection between the poles of the battery and the said strips whereby the contact of the two strips will shunt the battery, as herein set forth. 10th. The combination, with a secondary battery, of a body or receptacle containing a liquid and supported in the solution in such position that the liquid therein will be displaced by gas evolved from the solution, and a cut out device adapted to be operated by the movement of said body due to the displacement of liquid by the ascending gas, as set forth. 11th. The combination, with a secondary battery, of a receptacle, containing liquid, open at one end and supported in an inverted position in the battery solution, and a cut out device in position to be encountered, and adapted to be operated by the said receptacle when movement is imparted thereto by the displacement of the liquid by gas evolved from the solution, as set forth. 12th. The combination, with a secondary battery, of a U-shaped tube filled with liquid and supported in an inverted position in the solution and contact terminals of a cut out device in position to be brought into engagement by an upward movement of the tube due to the displacement of liquid therefrom by gas evolved from the solution, as set forth.

No. 33,829. Drive Chain. (*Chaîne sans fin.*)

Thomas Maxon, Daniel E. McSherry and Edward Brenneman, Dayton, Ohio, U.S., 1st March, 1890; 5 years.

Claim—The combination of the frames *b, b*, provided with hooks *c, c*, of one frame being larger than the hook of the other frame and adapted to embrace it, substantially as set forth.

No. 33,830. Shoe Last adjustable to all directions. (*Forme brisée.*)

Bernhard Thorner and Muller and Holzweissig, Leipzig, Saxony, 1st March, 1890; 5 years.

Claim—1st. A mechanical shoe or boot last comprising 4 main parts, of which two parts A and two parts B are movably connected by means of hinge *c* and whose displacement vertically is effected by means of the fork *d* and by the hollow screw spindle D on the shaft *a*, whilst their displacement horizontally is produced by the shaft *a*, the bevel wheels *f* and *k*, the screw spindle *g* and the wedge *l*, substantially as described. 2nd. In the mechanical boot and shoe last specified in claim 1, the connection of the front parts F, F', with the after parts H, H', of the last, by means of adjustment screw *e*, for the purpose of lengthening or shortening the last, substantially as described.

No. 33,831. Car Mover. (*Impulseur de char.*)

Abraham L. Wiley, Bethel, and Belle Thompson, Richmond, Ind., U.S., 1st March, 1890; 5 years.

Claim—A car mover consisting of clamp B' and lever B'', formed and combined as set forth and shown.

No. 33,832. Harrow and Clod Crusher. (*Herse et brise-motte.*)

Alice Snauld and Ellen Phelps, Detroit, Mich., (assignees of Lucius B. Phelps, Eagleville, Ohio, U.S.), 1st March, 1890; 5 years.

Claim—1st. The combination of the frame, the clod crusher sections arranged side by side and having their front ends loosely connected with the frame, and the harrow bar connected to the frame in the rear of the clod crusher sections, as set forth. 2nd. The combination of the frame, the clod crusher sections loosely connected thereto, the harrow bar loosely connected to the frame in the rear of the clod crusher sections, and the markers carried by the harrow bar and adjustable both vertically and longitudinally thereon, as set forth. 3rd. The combination of the frame, the arched bar secured to the rear portion of the same, the clod crusher sections having their front ends loosely connected with the frame, and the chains secured to the rear portions of said sections and adapted to suspend the same from the side arched bar, as set forth. 4th. The combination of the frame of the clod crusher sections having the teeth L and the pulverizing bar M, and the links N having their front ends pivoted to the frame and their rear ends pivoted to the clod crusher sections, as set forth. 5th. The combination, with the harrow bar having a longitudinal series of bolt holes, of the markers having longitudinal slots or notches in their upper portions, and the securing bolts passing through said slots or notches into one of bolt holes in the harrow bar, as set forth.

No. 33,833. Curry-Comb. (*Etrille.*)

James Du Shane, South Bend, Ind., and Thomson H. Alexander, Washington, D.C., U.S., 1st March, 1890; 5 years.

Claim—1st. The herein described curry-comb consisting of a series of rings or loops formed of serrated strips of flat metal arranged one within the other and lying in the same horizontal plane, washers interposed between the rings or loops at one point only, a handle and a bolt passing through the rings or loops and washers and confining or securing the rings to the handle at one point only, substantially as specified. 2nd. As an improved article of manufacture, the curry comb composed of a series of rings or loops formed of serrated strips of flat metal lying in the same horizontal plane, washers placed between said rings or loops at one side thereof at the point of attachment to the handle, and a handle having a flattened head extending over the washers, and also having a depending lug and a bolt passing through said rings or loops, washers and lugs to secure the rings to the handle, all substantially as described.

No. 33,834. Machine for Covering Card Board Boxes with Paper. (*Machine à couvrir les boîtes de carton avec du papier.*)

Louis P. Bouvier and Arthur J. Phillips, Toronto, Ont., 1st March, 1890; 5 years.

Claim—1st. A gumming roller G suitably journaled within a gum dish H, a roller K journaled in proximity to the roller G, in combination with the scraper L supported on the arms M which are adjustably connected to the bracket N, substantially as and for the purpose specified. 2nd. The combination, with the box-supporting table X, of the side Y and end Z adjustably connected to the said table, substantially as and for the purpose specified. 3rd. A box supporting table X pivoted at H' on the bracket I', in combination with the horn K' rigidly connected to the table X, and adjustably connected to the bracket I' by the clamping jaws J' and bolt L', substantially as and for the purpose specified. 4th. The shaft O' driven by any suitable motor and having a bevel pinion P', fixed to its inner end, and meshing with the bevel pinion Q' loosely journaled on the counter shaft R', and having a hub S' formed on it to project into a recess in the split clutch T', in combination with the bolt X' and spring Y', to elastically press the halves of the clutch T' against the hub S', and a plate Z' inserted between the halves of the clutch T' arranged to open the said clutch sufficiently to relieve the pressure on the hub, substantially as and for the purpose specified. 5th. A split clutch T' connected to the counter shaft R' and encircling the hub S' formed on the beveled pinion Q' meshing with the pinion P', but loosely journaled on the counter shaft R', a plate Z' inserted in the split in the clutch T', the bolt X' and spring Y', in combination with mechanism designed to direct pressure against the plate Z' so as to open the clutch T', substantially as and for the purpose specified. 6th. A forked bracket b held in its normal position by the spring *d*, and having pivoted upon it the dog *e* arranged to engage with the upper end of the treadle V, in combination with the said treadle V actuated by the spring *f* and designed to operate the pivoted bracket *b*, substantially as and for the purpose specified. 7th. The lever *g* pivoted in the frame of the machine, and connected by the links *h* to the carriage i, which is supported on the guide rods *j* and carries the disc-knife W, in combination with the rod *k* connected to the lever *g* and to a crank on the disc *m*, which is connected to the counter shaft R', so that the revolving of the disc *m* shall impart a rocking movement to the lever *g*, substantially as and for the purpose specified. 8th. The cord *n* fastened at both ends to the frame of the machine and carried around the pulleys *o* and *p*, in combination with the movable carriage i, arranged substantially as and for the purpose specified. 9th. The bent rod *q* connected to the rod *r*, which is journaled in the frame of the machine and has fixed to it a crank *s* connected to the vertical rod *t*, in combination with a cam *u* fixed to the counter shaft R' and caused to act on the roller *v*, so that the revolving movement of the counter shaft R' shall impart a rocking movement to the rod *r*, substantially as and for the purpose specified.

No. 33,835. Device for Leveling Railroads. (*Appareil pour niveller les voies de fer.*)

William Rose, Lerado, Kan., U.S., 1st March, 1890; 5 years.

Claim—1st. The combination, with a rail, of a telescope stand clamped thereon adjustably and having an adjustable telescope support, and of a target stand carrying an adjustable target and provided with a base clamped upon the rail in front of the telescope stand, substantially as specified. 2nd. A stand for targets or sight telescopes consisting of a U-shaped base adapted to embrace and to be secured upon the head of a rail, and a laterally and longitudinally adjustable glass or target carrying standard, having a longitudinal slot provided with a scale and for the reception of a telescope or target supporting set screw, substantially as specified. 3rd. The combination, with the base having an adjustable clamping side adapted to embrace the head of a rail and a vertical set screw, of an L-shaped standard, the lower portion of which is longitudinally slotted and connected to the base by set screw, and the upper portion of which is longitudinally slotted and provided with a scale, and a glass supporting cross piece mounted on the standard and having spring glass retaining arm, and a set screw passing through the cross piece and through the slot in the standard, substantially as specified.

No. 33,836. Wheel. (*Roue.*)

Jacob Dunstedter, Edwardsville, Ill., U.S., 1st March, 1890; 5 years.

Claim—1st. In a car wheel, the combination, with the rim provided with an interior rib having grooves *a*², *a*², and the inclined bearing surfaces *a*³, *a*³, of the disks having the flanges *b* and *b*¹ substantially as described. 2nd. In a car wheel, the combination, with the axle and the rim provided with the interior rib *a*, grooves *a*² and bearing surfaces *a*³, inclined as described, of the disks B having the flanges *b*, *b*¹, and hub portions C and bolts E, substantially as specified.

No. 33,837. Fastener for a Trace to a Single Tree. (*Crochet de palonnier.*)

Jehiel F. Wynkoop, Corsica, Penn., U.S., 1st March, 1890; 5 years.

Claim—In a new article of manufacture, a clamp or fastener for attaching a trace to a single tree, said device being adjusted on each end of a single tree by means of a bolt passing through same, the lower portion of bolt being threaded and a nut placed thereon, said nut being securely held in position by means of one end of said fastener being driven against same, substantially as described and for the purpose set forth.