

forth. 4th. The combination in a car-coupler, with a draw-bar A having the arm B, provided with flanges *d* having recesses *e* therein, and slot *f* entering said recesses, of the movable jaw C having branches *b*, *b'* the oblong journals *f'* cast with said jaw, a latch E pivoted in said draw-bar, and means for swinging or moving said latch, all formed as and for the purpose hereinbefore set forth. 5th. The combination, in a car-coupler, with a draw bar A having an arm B, provided with flanges *d* having circular recesses *e* therein, and slots *f* entering said recesses, of the movable jaw C having the oblong journals *f'* cast therewith, and curved grooves *p'* formed in the edge of said jaw, and the perforated block *n'* having a curved shoulder *m'* adapted to fit said groove, all formed as and for the purpose hereinbefore set forth. 6th. The combination, in a car-coupler, of the hollow draw-bar A having flaring arms B, B', and a recess *a* between said arms, the wedge-shaped recess *p* formed on the inner side of one of said arms, the flanges *d* having circular recesses *e*, and slots *f* entering said recesses, the hollow offset *c*, the latch E pivoted in said draw-bar, the spring bearing against said latch, the movable jaw C having the oblong journals *f'*, the branch *b* having the hook *h*, and tapering end, the curved slots *p'* formed in said jaw, the branch *b'* having the rounded outer face and provided with the slots or pocket *d'*, the opening *e'* intersecting said pocket, and the curved shoulders *p'*, all formed as and for the purpose hereinbefore set forth.

No. 32,488. Metal Railroad Tie.

(*Traverse métallique de chemin de fer.*)

Benjamin W. Ellicott, Flemington, N.J., U.S., 11th October, 1889; 5 years.

Claim.—1st. In a metal railroad tie, in combination, a foundation plate A provided with abutment ribs in rear of the standards of the rail-rest, and a flexible transverse rail-rest having abutment ribs for the rails between the said standards of the rail-rest, substantially as and for the purpose described. 2nd. In a metal railroad tie, in combination, the plate A provided with abutment ribs *a*, *a'*, *a''*, *a'''*, abutment blocks *c'* having bevelled portions *c''* and lugs *c'''*, and a flexible rail-rest B having foot portions *c''* with bevelled portions *c'''*, and a notch *c''''* substantially as and for the purpose described. 3rd. In a metal railroad tie, the flexible rail-rest B formed with foot portions *c''*, curved standard portions *f*, abutments *m*, *m'*, inside of or between the standards, substantially as and for the purpose described. 4th. In a metal railroad tie, in combination, the flexible rail-rest B having abutments *m*, *m'* between its standards, chair plates C, C', and the foundation plate A having abutments for the feet of the rail-rest, substantially as described. 5th. In a metallic railroad tie, in combination, the flexible rail-rest B, chair plates C, C' extended beyond the edges of the rail-rest, and gripping clips D passed under the rest and through the chair plates, substantially as described. 6th. In a metal railroad tie, in combination, the rest formed of two spliced parts *e*, *e'*, provided with abutment ribs *m*, *m'*, and having parallel portions terminated in shoulders *h'*, then tapered for a portion of their length, then made of uniform thickness from said tapered portion to their standards *f*, then bent into curved standards of a thickness equal to the last mentioned portion, and terminating in thicker abutting foot portions, substantially as and for the purpose described. 7th. In a metal railroad tie, in combination, the flexible rail-rest having abutment ribs between its standards, and provided with standards and abutting foot portions, said portions extending inward from said standards, a greater distance than outward, substantially as and for the purpose described. 8th. The flexible spliced rail-rest, in combination with a rigid foundation abutment plate, substantially as described. 9th. The abutment ribs *a*, *a'*, *a''* of the foundation plate, made of less height than the abutment ribs *a'*, *a''*, and with a bevel surface *a'''*, substantially as described. 10th. The abutment ribs *m*, *m'* of the rail-rest, those *m'* being made of a less height than the ribs *m*, in combination with the differently formed chair-plates C, C', and the rails *c''*, *c'''*, substantially as and for the purpose described. 11th. The combination, of the auxiliary braces E, rail-rest, rail and foundation plate A, substantially as described. 12th. In combination, with a rigid or solid plate or foundation, a flexible transverse rail-rest receiving the rails between its bearings, said transverse rail-rest yielding at once under a load bodily throughout its entire length and thickness between the foundation supports, and in this yielding assuming a downwardly curved or approximately segmental form, and, when the load is withdrawn, resuming its original straight shape, substantially as and for the purpose described.

No. 32,489. Combined Sand Band and Wheel Retainer. (*Rondelle d'essieu de voiture.*)

Franklin E. Peebles, Martinsburgh, N.Y., U.S., 11th October, 1889. 5 years.

Claim.—1st. A combined wheel-retainer and sand band, comprising a box in the hub having a spiral web, and an arm on the axle carrying a guard adapted to work within said box, as set forth. 2nd. The combination, with the hub and axle, of the box secured in said hub and formed with internal spiral web, and the arm secured to the axle and formed with an arc-shaped guard adapted to fit within said box and engage said spiral web, substantially as and for the purpose specified.

No. 32,490. Siphon. (*Siphon.*)

Michael Siersdorfer, Louisville, Ky., U.S., 11th October, 1889; 5 years.

Claim.—1st. The combination, with the suction device, of two tubes having communication therewith, a valve in each of said tubes arranged with their openings in opposite directions, whereby one is constituted an outlet and the other an inlet, a cut off in one of said tubes, and a spring for holding said cut-off normally in one position, and a strainer in one of said tubes, for the purpose described as shown in Fig. 1 of the drawings. 2nd. The combination, with the flexible bulb 1, having tubes 2, 3 inserted therein, balls 4 in each of said tubes, flanges or valve-seats 5 arranged in said tubes between the

bulb and said balls, a cage 14 partially surrounding said balls for retaining them, a dome or box 12 on the tube 3, a stem projecting vertically through said dome, a disk 10 on the lower end of said stem 11, a lug on said stem, a spiral spring surrounding said stem between said lug and tube 3, a strainer 6 located in one of said tubes and a ring 8 on the under side of tube 3, all substantially as shown in Fig. 1 of the drawings. 3rd. The combination, with the flexible bulb 1, of the tubes 2, 3 in said bulb, the valves 6, 9, for the purpose described, the spigot 12a, secured to tube 2, a chamber 11 in said spigot having valve-seat 24, and opening 12, a cover 13 having box 14, the valve-stem 16 having shoulder 18, the spiral spring 19 coiled in said box between the said shoulder and cover, and the finger-ring 28, substantially as shown in Fig. 2 of the drawings. 4th. The combination, with the bulb 1, of a spigot connected therewith, a valve in said spigot opening away from said bulb, a partition in said spigot forming a chamber 11, and having an opening 12 therein, a valve-seat surrounding said opening, the removable cover 13 in said chamber, a valve-stem projecting through said cover, a valve on said stem, and a spring for holding said valve normally open, substantially as described and as shown in Fig. 2 of the drawings. 5th. The combination, with the flexible bulb 1 having tubes 2, 3 inserted therein, a suitable valve located in the tube 2, and a second valve located in the tube 3, said latter valve being operated and controlled by means of the hollow vertically moving stem 11, disk 10, spring 13 and thumb-lever 22, all substantially as described in Fig. 3 of the drawings. 6th. The combination, in a siphon, of the flexible bulb 1, the tube 2 having a valve chamber therein, and provided with a valve 19 mounted on a longitudinally moving stem 20, and a second tube 3 likewise provided with a valve chamber and valve, the latter being mounted on the pin 13, said parts being guided and controlled substantially as hereinbefore shown and described in Fig. 3 of the drawings. 7th. In combination with a siphon, the straining device consisting of the wire frame or cage on which is mounted a suitable straining cloth, and a locking ring 16, as described in Fig. 3 of the drawings.

No. 32,491. Potato Digger.

(*Scarificateur à patates.*)

Alvin N. Woodard, Jamestown, N.Y., U.S., 11th October, 1889; 5 years.

Claim.—1st. In a potato digger, the combination of an inclined frame supported upon ground wheels, a plough pivotally connected at the forward end of the frame, a slatted carrier for elevating the earth, and a double inclined apron below said carrier, substantially as described. 2nd. In a potato digger, the combination, of an inclined frame supported upon the ground wheels of a plough pivotally connected at the forward end to the frame, of a slatted carrier carried upon sprocket wheels in the end of the frame, and operated by connection with the gear wheel on the axle, a double inclined apron below said carrier extending below the sides of the frame, substantially as described. 3rd. In a potato digger, the combination of the following elements: ground wheels journaled upon stub-axes, an inclined frame, a carrier extending around said frame, and an apron below said carrier, said apron having the straight portion O', double inclined portion O and the curved portion Q, and stop P, substantially as described. 4th. In a potato digger, the combination, of ground wheels journaled upon stub-axes secured in the inclined frame C, the arch D connecting the sides of the frame, a plough pivotally connected to the forward end of the frame, the sides H of the plough, of the handles R extending to the rear of the machine, and bearing at or near their middle upon the arch D, substantially as and for the purpose described.

No. 32,492. Pencil Sharpener. (*Taille-crayon.*)

Thomas H. Stafford, Concord, N.H., U.S., 12th October, 1889; 5 years.

Claim.—1st. In a pencil-sharpener, the hinged cutter-frames and knives attached to their free ends, and suitable guide rolls, all substantially for the purpose set forth. 2nd. In a pencil-sharpener, the hinged cutter-frames, swivel cutters attached thereto adapted to make a tapering cut on opposite sides of a pencil, and guide rolls connected to said cutters in a manner calculated to regulate their cut, all arranged substantially as for the purpose set forth. 3rd. In a pencil-sharpener, the oppositely inclined spring cutters adapted to make a tapering cut on opposite sides of a pencil, and suitable spring rolls for separating said cutters as required.

No. 32,493. Boiler. (*Chaudière.*)

John Lapp, Honeoye Falls, N.Y., U.S., 12th October, 1889; 5 years.

Claim.—1st. A hot water heating apparatus, consisting of hollow sides, hollow ends and hollow top secured together, and communicating with each other through coincident ports in their vertical meeting edges, of the side ports in the lower face of the top adjacent to the outer edges, and coinciding with ports in the upper edge of the sides, and water inlet and outlet pipes, and a grate and fire pot, substantially as described. 2nd. A hot water heating apparatus, comprising sides and ends, and top in separate sections secured together, all being hollow and communicating together, and a grate and fire pot, a casing and horizontal partition between the sides and ends, and the casing constituting a reverse flue, and a partition across the top provided with a damper in combination, substantially as described. 3rd. A heating apparatus, consisting of hollow sections in separate pieces, hollow ends and hollow top sections secured together and communicating with each other internally, and tubes extending from the sides into the top of the combustion chamber and nearly across it, a grate and fire pot, water inlet and outlet pipes, and an external casing creating flues exterior to the sides and ends and above the top, substantially as described. 4th. A hot water heating apparatus consisting of a hollow side piece, a hollow back, a hollow top, provided with an opening for escape of the products of combustion, a hollow front, the sides, back, front and top being secured together, and all communicating with each other internally, one section being cut away on one edge, and its meeting section being cut away in like manner,