

crank arms I_1 and K_1 loosely splined upon the said stems respectively, two suitably-shaped cams engaging the ends of the crank-arms I_1 and K_1 respectively, and mounted upon the cam shaft F , and means for appropriately moving the cam shaft F , and thereby rocking the dies D_1 and G_1 upon their longitudinal axes during their endwise reciprocating movements. 3rd. The combination, as set forth, of the die G_1 , the retracting spring F_3 , the scroll cam F_1 mounted upon the same shaft F , the rocking lever F_2 bearing at one end upon the scroll cam F_1 , and at the other end upon the end of the stem G of the slow-moving die G_1 , and means for appropriately moving the cam shaft F and thereby imparting the required endwise reciprocating movements to the die G_1 . 4th. The combination, as set forth, of the cam e mounted upon the counter-shaft E , the cam-bar e_1 , the retracting spiral spring e_2 , the crank-arm f_1 , the crank-pin f_2 , adjustably secured to the crank-arm f_1 , and the rocking cam-shaft F having mounted upon it suitable cams for imparting rocking movements to the dies D_1 and G_1 respectively. 5th. The combination, as set forth, of the endwise-reciprocating die G_1 , the carriage L , the deliverer N provided with sliding bearings in the carriage L , the ways M , M_1 and the endwise-reciprocating die D_1 . 6th. The carriage L , suitably connected with and partaking of the endwise reciprocating motions of the die G_1 , the deliverer N provided with sliding bearings in the carriage L , the rocking lever n , pivotally affixed to the carriage L and at its upper end engaging the deliverer N , in combination with the horizontally adjustable gauge-plate O for catching the lower end of the rocking lever n during the movements of the carriage L , and thereby causing the rocking-lever n to rock upon its axis and impart to the deliverer N a range of motion greater than the range of motion of the carriage L . 7th. The gauge-plate O , presenting its edge O_2 in a position in which it intersects the path of motion of the rocking lever n , and means for horizontally adjusting the gauge plate O , and thereby fixing the limit to the backward motion of the deliverer N in the act of delivering a blank to the dies. 8th. The laterally-adjustable plate H , and the cap H_1 secured thereto, affording the concentrically-grooved bearing for the die G_1 , means for horizontally adjusting the plate H and the cap H_1 toward and from the die D_1 , and means for rigidly securing the plate H and the cap H_1 to the bed upon which the plate rests in the position in which they have been adjusted.

No. 27,923. Two-Wheeled Vehicle.

(Voiture à deux roues.)

Charles Bew, Angola Ind., U.S., 3rd November, 1887; 5 years.

Claim.—1st. The combination, with a vehicle, of brackets firmly secured to the axle, said brackets carrying in their vertically barreled ends sliding rods, springs supporting said rods, and a seat rigidly secured to the upper ends of said rods, substantially as set forth. 2nd. The combination, with a vehicle, of brackets firmly secured to the axle or axle frame, said brackets provided with vertical guides at their ends, rods sliding in said guides, springs supporting said rods, a seat secured rigidly to the upper end of said rods, a foot-rest connected at the rear to the lower ends of the front rods, and at the front end to the shafts, substantially as set forth. 3rd. The combination of the axle A , brackets B , rods C , C_1 , springs C_{11} , and seat D , substantially as set forth. 4th. The combination of the axle A , brackets B , rods C , C_1 , springs C_{11} , seat D , strut E , braces F , G , H , and J , shaft I , studs I_1 , springs i , bar K and slats k , substantially as set forth. 5th. The combination of the axle A , brackets B , strut E , brace F having flat feet f_1 doweled in the axle, and rimmed seats f_2 on the reverse tie-plate f_{11} adapted to fit the seats f_1 , the braces G , H and J , and the shafts I , substantially as set forth. 6th. The combination of the shafts I , studs I_1 , springs i , bars K , rods C , slat k , guide K_1 , springs K_{11} and strut E , substantially as set forth.

No. 27,924. Safety Car Heater.

(Calorifère de sûreté pour chars.)

Henry C. Dennis, Tyrone, Penn., U.S., 3rd November, 1887; 5 years.

Claim.—1st. In a car-heater, the case comprising the inner and outer shells having the registers in the sides, the inlet air chamber formed between their lower ends, and communicating with the space within the inner shell, and the smoke chamber formed between their upper ends, in combination with the stove arranged in the inner shell, and having the pipe communicating with the smoke chamber, for the purpose set forth substantially as described. 2nd. In a car-heater, the combination of the case having the opening B in its lower side, communicating with an opening in the bottom of the car, the air-chamber K in the lower side of the case having the opening P communicating with the interior of the case, the annular chamber G between the inner and outer shells of the case, said shells having the registers, the smoke chamber at the upper end of the case, and the stove arranged in the interior of the case and confined therein, and having the pipe communicating with the smoke chamber, substantially as described. 3rd. In a heater for cars, the combination of the inclosing case adapted to receive and confine a stove, the said case having the register to radiate heated air, the slide plate adapted to close the register, and having the arm projecting through the bottom of the stove, the pin to secure the said arm, the spring to close the slide plate over the register when the pin is released, and means substantially as set forth connecting the pin with one of the trucks of the car, substantially as described.

No. 27,925. Automatic Snow Cleaning Railway Switch. (Aiguille chasse-neige automatique de chemin de fer.)

Ulysses S. Lutz, Bloomsburg, Penn., U.S., 3rd November, 1887; 5 years.

Claim.—1st. In a railway switch, the combination of the main rails A , B , the blocks F and G on the sides thereof, and the switch-rails having the extended treads at their free ends supported on the blocks F and G , and adapted to sweep over and rest upon the upper sides of the main rails, substantially as described. 2nd. The combination, in a railway-switch, of the main rails, the switch-rails hav-

ing their free ends adapted to bear upon the main rails and reduced to a wedge-shaped point, and the inclined lifting-blocks on the inner sides of the main rails adapted to engage the flanges of the wheels, and raise the treads of the latter from the main rails onto the switch rails, and to clear the extreme thin-pointed ends thereof, for the purpose set forth substantially as described. 3rd. The combination of the main rails, the switch-rails having their free ends adapted to pass over and rest upon the top of the main rails, the lever connected to the said switch-rails to operate the same, and the longitudinally-movable lifting blocks arranged on the inner sides of the main rails, and connected to the operating lever and thereby movable simultaneously with the switch-rails, for the purpose set forth substantially as described. 4th. The combination, in a railway-switch, of the inclined guide-blocks S on the inner sides of the main rails, and the lifting-blocks T supported on the said blocks S and adapted to raise the threads of the wheels from the tops of the rails, the said lifting-blocks being movable on the supporting-blocks, substantially as described. 5th. The combination, in a railway switch, of the inclined blocks S on the inner sides of the main rails, and having the recesses S_2 on their upper sides, and the longitudinally movable lifting blocks T on the blocks S , and having the offset T_1 adapted to engage the recesses S_2 , for the purpose set forth substantially as described.

No. 27,926. Electric Lamp. (Lampe électrique.)

Warren S. Hill, Boston, Mass., U.S., 3rd November, 1887; 5 years.

Claim.—1st. In an electric-arc lamp, the combination, with the main and shunt magnets and cut-out terminals, of an armature-lever pivoted between said magnets, supporting the clutch and carrying a connecting-piece for the cut-out, and an adjustable device connected to said armature, whereby a practical balance of forces is obtained upon the armature when the lamp is in operative condition, and when the balance is disturbed the cut-out is operated, substantially as described. 2nd. In an electric-arc lamp, the combination, with the main and shunt magnets and the cut-out terminals, of a pivoted lever forming or carrying armatures for said magnets, and a connecting-piece for the cut-out, the clutch connected to said armature, and an adjustable spring-acting in conjunction with the weight of the clutch, substantially as described. 3rd. In an electric-arc lamp, the combination, with the main and shunt magnets, of an armature lever cut-out, terminals arranged upon the shunt magnet, and a connecting-piece for the cut-out terminals carried by said armature-lever, substantially as described. 4th. The combination, with the cut-out terminals, of a connecting-sleeve insulated from its support, and loosely connected therewith, whereby a good bearing is obtained between the terminals and the sleeve, substantially as described. 5th. The combination, with the main and shunt magnets and armature-lever, of a cut-out terminal arranged upon the shunt magnet, and a connecting device attached to the end of the lever and adapted to engage the terminals, substantially as described. 6th. The combination, with the main and shunt magnets and armature-lever, of cut-out terminals arranged upon the shunt magnet, a connecting device attached to the end of the lever, and a spring to operate said lever, substantially as described. 7th. In an electric-arc lamp, the combination, with the magnets and armature lever, of the cut-out terminals and connector, and a catch to hold said connector away from said cut-out terminals, substantially as described. 8th. In an electric-arc lamp, a carbon-holder having a clamp consisting of a rigid part, and a movable part having parallel bearing-surfaces, the movable part being provided with an elongated pivot-slot, and a rigid arm projecting over the movable part, and carrying a clamp-screw, whereby the carbon may be secured between the parallel bearing surfaces of clamp, substantially as described.

No. 27,927. Steam Radiator Valve.

(Valve et calorifère à vapeur.)

Thomas L. McKeen, Easton, Penn., U.S., 3rd November, 1887; 5 years.

Claim.—1st. In an air-valve for steam radiators, the combination of a tube closed at its upper end, and having a steam-inlet at its lower end, and a valve-seat in its lower end, a tube secured around the valve-seat and extending to near the upper end of the outer tube, and a valve rod secured at its upper end at the upper end of the tube, and of a length to fit upon the valve-seat with its valve when expanded, as and for the purpose shown and set forth. 2nd. In an air-valve for steam radiators, the combination of a tube upon its upper end, a cap fitting upon the lower end of the tube and having a laterally projecting pipe for admitting steam, and having a valve-seat in its lower closed end, a tube secured with its lower end around the valve-seat, and extending to near the upper end of the outer tube, and a valve rod secured with its upper end in the upper end of the tube, and having its valve at the lower end fitting upon the seat when the valve rod is expanded, as and for the purpose shown and set forth. 3rd. In an air-valve for steam radiators, the combination of an outer tube, a cap secured to the lower end of the tube and having a laterally-extending steam inlet-pipe, a downwardly-extending screw-threaded tube having a valve-seat at its upper end, a tube within the outer tube secured at its lower end around the valve-seat, and extending to near the upper end of the outer tube, a cap closing the upper end of the tube and having a removable screw-plug in its upper end, and a valve-rod having its upper portion adjustably secured to said cap, and having its uppermost end square, and having the valve at its lower end fitting upon the seat when the valve is expanded, as and for the purpose shown and set forth. 4th. In an air-valve for steam radiators, the combination of a cap at one end of the valve-tube having dove-tailed notches or recesses in its inner end, a spring having dove-tailed ends fitting in the recesses, and having a screw-threaded perforation in its bulged centre, and an expandible valve-rod having a screw-threaded upper end fitting in the perforation, as and for the purpose shown and set forth. 5th. In an air-valve for steam radiators, the combination of an outer tube, a cap secured to the lower end of the tube, and having a laterally-extending steam-inlet pipe, a downwardly-extending screw-threaded tube having a valve-seat at its upper end, a tube within outer tube secured