tent to permit of opening and closing the propeller blades. 8th. In combination with the rod K, with its outer tubular portion, or propeller shaft M, cross-head *d* and the wings *z z* hinged at their bases to such cross-head, the rod L bent and entering the tubular shaft M, and provided with the stop or yoke P, to regulate the slip between the two rods and bearing the arm Y, connected by links with the outer edges of wings *z z*.

No. 12,444. Machine for folding and Pasting the ends of Collars. (*Machine à plier et encoller les bouts des faux-cols*).

Richard Jellymam and George N. W. Rice, Montreal, Que., (Assignees of Charles Spofford, Boston, Mass.. U. S.,) 2nd March, 1881; (Extension of patent No. 5,748.)

No. 12,445. Improvements on Sewing Machines. (*Perfectionnements aux machines à coudre*).

George W. Simmons, Boston, (Assignee of Thomas S. L. Howard, Somerville,) Mass., U. S.. 2nd March 1881; (Extension of patent No. 5,751.)

No. 12,446. Car Truck Shifting Apparatus. (*Appareil pour déplacer les trains des chars*).

Robert H. Ramsay and George N. Scarlett, Cobourg, Ont., 3rd March 1881; (Extension of patent No. 5,784.)

No. 12,447. Improvements in Envelope Machines. (*Perfectionnements aux machines à enveloppes*).

Louis P. Bouvier and John F. Ellis, Toronto, Ont., 4th March, 1881; for 5 years.

Claim.—1st. A machine for making envelopes, having a reciprocating carrier for carrying the blank from the picker to the creasing box, a support arranged to carry the blank between the points named without interfering with the movement of the plunger. 2nd. The reciprocating carrier B, connected together by the bridge pin D, in combination with a cord E, extending from the bridge piece D to the outside edge of the creasing box, in such a manner that it will always remain taut, notwithstanding the movement of the carrier. 3rd. The carriers B, connected together by the bridge piece D in combination with the cord E, extending from the bridge piece over the pulleys F G H to the arm I, to which it is attached by the spiral spring J.

No. 12,448. Heat Radiator. (*Calorifère*).

Emerson C. Angell, New York, U. S., 4th March, 1881; (Extension of Patent No. 5,771).

No. 12,449. Heat Radiator. (*Calorifère*).

Emerson C Angell, New York, U. S., 5th March, 1881; (Extension of Patent No. 5,771).

No. 12,450. Improvements in Stock Cars. (*Perfectionnements aux chars à bestiaux*).

John R. McPherson. Jersey, N. J., U. S., 5th March, 1881; (Extension of Patent No. 5,782).

No. 12,451. Improvements in Stock Cars. (*Perfectionnements aux chars à bestiaux*).

John R. McPherson, Jersey, N. J., U. S., 7th March, 1881; (Extension of Patent No. 5,782).

No. 12,452. Improvements on the Maxwell Reaper. (*Perfectionnements à la Moissonneuse dite "de Maxwell."*)

David Maxwell, Paris, Ont., 7th. March, 1881; (Reissue of Patent No. 8,275.)

Claim.—1st. In a harvesting machine in which the main driving wheel revolves freely upon its axle, to which axle the gear wheel for driving the cutter, is fastened, the combination of the rocking rod seated on the wheel, and having a pawl upon its inner end to engage with the ratchet teeth formed upon the gear wheel, for the purpose of imparting motion to the main driving axle in the forward movement of the machine. 2nd. In a harvesting machine in which the main driving wheel revolves freely upon its axle, to which axle the gear wheel, for driving the cutter, is fastened, the combination of a rocking rod seated on the wheel, and having a pawl and spring connected to it with a lug or projection on the main wheel, for the purpose of holding the pawl in or out of gear, with the ratchet teeth on the gear wheel.

No. 12,453. Improvements on Car Wheels. (*Perfectionnements aux roues des chars.*)

William W. Lobdell, Wilmington, Del., U. S., 7th, March, 1881; (Extension of Patent No. 5,855.)

No. 12,454 Improvements on Pipe Elbow Flanging Machines. (*Perfectionnements aux machines à faire les bourrelets des coudes de tuyaux de poêles.*)

John P. Joor and James E. Downey, Indianapolis, Ind., U. S., 7th March 1881; for 5 years.

Claim.—1st. The top B with ring C and radial slots *w w w* combined with the segmental pipe clamp I I I, gibbed slides T T T, link R R R, moveable ring J and lever K. 2nd. In combination with the segmental pipe clamp I I I, the cone H and shaft *a*. 3rd. The head L with side wings L_1L_1 and jaws L_2 combined with the moveable arms M_2M_2 and adjustable moveable arms M M', rollers *t t*, springs *v v*, arms *f f* and cone spreader F. 4th. In combination, the head L with lateral adjustable rollers *t t* and arms *f f*, the cone spreader F, adjustable segmental pipe clamps I and cone H.

No. 12,455. Improvements in the manufacture of Iron, Steel and other Metals. (*Perfectionnements dans la fabrication du fer, de l'acier et autres métaux.*)

John Conant and Luther F. S. Viele, Prairie du Chien, Wis., U. S., 7th. March, 1881; for 5 years.

Claim. 1st. A compound composed of sulphate of copper, rosin and salammoniac. 2nd. The process for the treatment of steel and other metals, by means of a compound or mixture of sulphate of copper, rosin and salammoniac.

No. 12,456 Improvements on Vehicle running Gears. (*Perfectionnements aux trains de dessous des voitures.*)

Edward N. Heney, (Assignee of Jules Lajeunesse.) Montreal, Que., 7th. March 1881; for 5 years.

Claim.—1st. The combination of the X-shaped perch G with the spring D, braces L and bar H. 2nd. The combination of the springs D, X-shaped perch G, braces L, bar H and upper part of fifth wheel M. 3rd. The combination of the springs D, bar H and upper part of fifth wheel M. 4th. The combination of the X-shaped perch G with the side springs D.

No. 12,457. Improvements on Rotary Fire Grates. (*Perfectionnements aux grilles de foyer rotatoires.*)

The Doten Rotary Fire Grate Company, (Assignee of Clark W. Doten,) Boston, Mass., U. S., 7th March, 1881; for 5 years.

Claim.—1st. A series of rotary wheels B having lugs D, and secured upon a shaft E, and interlocking with other series of rotary wheels B, the intervening spaces between the peripheries of said wheels being provided with a series of stationary segments C, having lugs D. 2nd. A series of rotary wheels B having lugs D and interlocking with other similar series of rotary wheels B, the intervening spaces being provided with a series of stationary segments C having lugs D, said wheels and segments being mounted upon a series of shafts E provided with gear wheels H, whereby said wheels B are rotated simultaneously.

No. 12,458. Improvements on Bottle Washing Machines. (*Perfectionnements aux machines à laver les bouteilles.*)

Joseph M. Hoyt, Lynn, Mass., U.S.. 7th March, 1881; for 15 years.

Claim.—1st. A brush carrier composed of the tubular hub N provided with two dovetailed grooves extending longitudinally thereof, (the bottom of which grooves are substantially concentric with the axis of said hub) and the two leaf springs O O made of even thickness throughout and having the ends thereof, which are secured to the tubular hub N bevelled to fit said dovetailed grooves, and also curved transversely from said end to a point some distance in advance of the front end of said hub. 2nd. A rubber brush provided with two sockets as a means of securing it to flexible and yielding arms, and also provided with a series of projecting bosses or hubs, the ends of which act upon the surface of the bottle independently of each other. 3rd. The combination, in a bottle washer, of the non-revolving sleeve K provided with the set screw *a*, the inner sleeve L provided with the circumferential groove *c*, and segmental collar *b*. 4th. The fixed frame C provided with bearings *c c*, the hollow shaft D provided with the pulley E and carrying at one end the brush carrier N O O, and connected at its other end with the fixed pipe G by means of a stuffing box G_1, the valve H, upright lever *d* spring *e*, the reciprocating frame I I J J_1, the spring M and the sleeves K L. 5th. In a bottle washer, a rubber brush provided with means of attaching it to the spring carrier and with the long flaring projecting wings *g g*.

No. 12,459. Process for producing Gelatine Relief Plates. (*Procédé pour produire des plaques de gelatine en relief pour imprimer.*)

William H. Mumbler, Boston, Mass., U. S., 7th March, 1881; (Extension of Patent No 5,760.)

No. 12,460. Improvements in Lathes for Turning Car Wheels and Axles. (*Perfectionnements aux tours à tourner les roues et les essieux des chars.*)

George G. Lobdell, Wilmington, Del., U. S., 7th March, 1881; (Extension of Patent No. 5,835).

No. 12,461. Railway Flange Cleaner. (*Chasse-pierre de chemin de fer*).

Thomas Temple and James H. Miller, Fredericton, N. B., 7th. March, 1891; (Extension of Patent No 5,946).

No. 12,462. Railway Flange Cleaner. (*Chasse-pierre de chemin de fer.*)

Thomas Temple and James H. Miller, Fredericton, N. B., 8th March 1881; (Extension of patent No. 5,946).

No. 12,463. Improvements on Pressed Brick Machines. (*Perfectionnements aux machines à brique pressée.*)

Zéphirin Vanier, Westborough, Mass., U. S., 8th March 1881; for 5 years.

Claim.—1st. The combination of the plunger L and the endless band O having the described connection with the shaft of the revolving table, whereby it has intermittent motion in connection therewith. 2nd. In combination with the plunger L, the endless band O having a fixed drum Ot, and the moveable drum O_2 adapted to be lifted and depressed, in connection with said plunger. 3rd. The combination of the lifting frame *r r*, the cam wheel Q and the shaft N. 4th. The combination of the arm *t*, stud 2 and cam wheel Q. 5th. The combination, with the pug-mill F and the revolv-