the devices O O, for permitting or restraining their action and arranged to operate as described; 6th. The end tines $e^1 e^1$, of the series on the tine shafts having an outward bend so as to bring them nearer to the ground wheels; 7th. The tongue thill and slat-frame I, made and attached to the axle-tree with irons bent, in the manner described; 8th. The crank arms $f f$, made with a set back u, for the purpose of giving a longer bearing for the cam-way rollers without losing any of the advantage gained by the outward bend of the end tines in getting them nearer to the ground wheels; 9th. In combination with the main frame hinged to the axle-tree, the branched lever which spans or straddles the axle-tree and serves as brace and lever as described.

No. 3147. JOHN O'REILLY, Ottawa, Ont., 24th February, 1874, for 5 years: "Machines for Washing Clothes." (Machine à laver le linge.)

Claim —The curved bars on rubber B, and on bottom of box C, and the attachment of lever A, in the circular action position.

No. 3148. FRANCIS A. EVERETT & MILTON BOWERMAN, Springfield, Mo., U. S., (Assignees of A. W. McClure,) 3rd March, 1874, for 5 years: "Metallic Churn Dasher." (Batte-beurre en métal.)

Claim —Metallic churn dasher, described, consisting of the combination of the hub A, with the raised flange B, the compound curved and grooved radial arms E, attached in the manner and form shown to the outer grooved ring c.

No 3149. THOMAS S. HUNTLEY, Cardiff, Eng., ANDREW GILCHRIST, Anstruther, Scotland, and JOSEPH A. DIXON, Glasgow, Scot., 3rd March 1874, for 15 years: "Improvements on Extracting Trees and Stumps by the Roots and in Engines therefor." (Perfectionnements dans la manière d'arracher les arbres et les souches par les racines et dans les engins pour cet objet.)

Claim.—1st. Extracting of trees with their roots from the ground by steam power acting on the trees through a rope operated by a winding or hauling drum A; 2nd. The novel combination of the differential gear and clutches C D.E.F J, and K, for actuating the winding or hauling drum A at the required speed; 3rd. The novel combination with engines of the class described of the roller S, with the means for loading it, in the manner described; 4th. The instruments operating or working in the manner described for extracting stumps of trees from the ground.

No. 3150. ROBERT QUINTAVALLE, Brooklyn, N. Y., and REMIGIO LO FORTE, New York, U. S., 3rd March, 1874, for 5 years: "Improvements on the Construction and Arrangement of Steam and Sailing Vessels." (Perfectionnements dans la construction et la distribution des vaisseaux à vapeur et à voiles.)

Claim.—1st. In a vessel the blades C C, suspended from the deck B, into the hold to prevent the cargo from shifting; 2nd. Auxiliary rudder D, provided with the swivel blocks $i j$; 3rd. Combination of the chains m, n, with the auxiliary rudder D, swivel blocks i, j, and chains r, s.

No. 3151. MARSHALL A. WEIR, London, Eng., 3rd March, 1874, for 5 years: "Apparatus for Registering and Checking the Entries and Exits of Passengers to and from Tramway Cars, Omnibuses or other Carriages." (Appareil pour enrégistrer et contrôler les entrées et sorties des passagers sur les voitures de chemins à ornières, omnibus et autres voitures.)

Claim —The combination of the swinging gate C, and sliding gate H, the latter arranged to close behind the passenger as described in reference to Figures 2, 3, and 4; 2nd Combination of the swinging arm G1, having a limited movement, with the swinging gate C, and vibrating gate R, as described in reference to Fig. 2; 3rd Combination of the guide P, with the sliding gate H, arms J, J, chains K, K, and spring L, Figures 2, 3, and 4, and of the pin Q, in the slide gate lever P, pulley or drum P1, and chains P^2, and P^3, Figures 2^a, and 2^b; 4th Combination of the laterally sliding socket O, having studs R, R, with the notched or pierced plates S, S, as described in reference to Figures 2, 3, and 4, 5th. Rotating turnstile with folding arms operated by a cam or cams B, B^1, as described in Figures 1, and 1^a; 6th. Notched disc B, upon the turnstile shaft actuating by means of the sector L, and ratchet motion the strip of paper as described in reference to Figures 5, and 6; 7th Turnstile shaft in combination with the bell crank levers D, D^1, having triggers E, E^1, and prickers F, F, for piercing a moving strip or fillet G, as described in relation to Fig. 5; 8th. Combination of the air compressing instrument operated by crowning of the road or by the throwing up of a projection from the rail shown in Figs. 18, and 19, either with the bellows N, toothed sector lever L, and fillet moving device shewn in Fig. 5, or with the air chamber i^1, or i^3, and pricker j^2, or j^3, shewn in Figs. 7, and 8; 9th. Combination of the turnstile or swing gate with air compressing instrument a, and plug valve b, connected by pipes to small air chamber i, pricker j, and moving strip as shown in Figs 7. 8, and 9; 10th. Small air chambers a, a, a, and counters b, b, b, shewn in Figs 13, 14, and 15, actuated by an air compressing instrument; 11th. Governing apparatus consisting of the plug valves H, and H^1, operated from the axle of the vehicle by the gearing change stud plate D, and ratchet motion shown in Figs. 16, and 17, acting in communication with air compressing instrument and registering apparatus such as that shown in Figs. 13, 14, and 15, constructed and arranged as set forth; 12th. The combination of the plug valves H, and H^1, change stud plate D, lever F, and air compressing instrument N, in Figs. 16, and 17, with the pricker registering apparatus shown in Figs 7, 8, and 9, being connected therewith by tubes as described; 13th. The combination of the plate E, with studs F, F, thereon, the ratchet wheel G, air chamber M, and other mechanism in connection with a clock train as set forth in reference to Figs. 10, 11, and 12; 14th. The combination of the air chambers or bellows N, valve N^1, lever N^2, and click N^3, shewn in Figs. 5, with the sector arm L, and fillet moving device in Fig. 5, as set forth.

No. 3152. ALBERT C. LANGWORTHY, Aurora, Ill., U. S., and GIDEON HUNTINGTON, London, Ont., 3rd March, 1874, for 5 years: "Improvement on Spring Bed Bottoms." (Perfectionnement des fonds de lits à ressorts.)

Claim —The application of slats A, one end open, slat B, ends riveted together, slat C, sawn out of one piece, ends solid and springs E.

No. 3153. TEMPLE EMERY, Peshtigo, Wis., U. S., 3rd March, 1874, for 5 years: "Machine for Rolling Logs." (Machine à tourner les pièces de bois.)

Claim.—1st. A log rolling machine one or more horizontally sliding and folding knees, arranged and braced for continued engagement in one direction with logs arranged upon a skidway and for disengagement therewith, by reason of their contact with the said logs, while moving in the opposite direction; 2nd. A log rolling machine, one or more horizontally sliding, folding and self adjustable knees, arranged and braced for continued engagement in one direction with logs arranged upon a skidway and for disengagement therewith by reason of their contact with the said logs, while moving in the opposite direction; 3rd. A log rolling machine, the sliding, folding and self-adjustable knees D, D, one or more in combination, with an endless chain by means of which the said knees are actuated; 4th. In combination in a log rolling machine, the bevelled friction wheel L, the sliding shaft M, provided with the bevelled friction pinion m, m, and the clutch n, and the pivoted level N.

No. 3154. JOHN MULLALY, New York, U. S., 3rd March, 1874, for 5 years: "Machine for Melting Snow and Ice on Streets and Railways." (Machine à fondre la neige et la glace sur les chemins et les voies de fer.)

Claim.—1st. In a machine for melting snow and ice, a vertically adjustable distributor; 2nd. In a snow melting machine a perforated distributor composed of pipes so constructed and arranged that any number thereof may be employed at any time; 3rd. The combination with the distributor of a snow melting machine of devices for effecting its vertical adjustment, 4th. A machine for melting snow or ice consisting of a suitably mounted portable steam generating and superheating apparatus having tubes so arranged as to receive superheated steam from the superheater and discharge the same upon the snow or ice through pipes arranged between the wheels of the truck; 5th In a machine for melting snow and ice auxiliary distributors arranged as described to discharge a heating or melting medium upon frozen obstructions in front of or at the sides of the apparatus; 6th. A machine for melting snow having a brush or brushes S1, and a receptacle for receiving the snow and melting the same: 7th In a snow melting machine a series of perforated revolving cylinders, constructed and operating as described and made either with or without brushes as set forth; 8th. In a snow melting machine the combination of the air heating apparatus conducting tubes and blast fans with the perforated tank or distributor placed underneath the apparatus and between the wheels; 9th. The devices described for imparting motion to the blast fans in combination with the air heater conduction pipes and tank or distributor; 10th. The combination with a portable furnace, steam generator and hot air chamber of the perforated distributing tank or chest V5, placed between the wheels and a blower or blowers; 11th. A machine for melting snow and ice consisting of a suitably mounted portable steam and hot water apparatus in combination with the perforated distributing tank or chest W5, through which hot water alone or hot water and steam together may be discharged upon the snow or ice, said tank being arranged beneath the truck as specified.